

# CARIS

Centre for the Analysis of  
Regional Integration at Sussex

## Qualitative analysis of a potential Free Trade Agreement between the European Union and India

### **Annex 1: Analysis of trade and production structures and implications for non-tariff barriers, services and regulatory parts of an FTA**

#### **Centre for the Analysis of Regional Integration at Sussex**

Michael Gasiorek  
Peter Holmes  
Sherman Robinson  
Jim Rollo  
Anirudh Shingal

Department of Economics  
University of Sussex  
United Kingdom

&

#### **CUTS International**

Chandan Mukherjee  
Nitya Nanda  
Dr. N.C. Pahariya  
T.B.Simi

This report was funded by the European Commission, DG Trade. The views expressed in this report, however, are those of the authors' and do not represent those of the European Commission services.

We would also like to thank Manish Agarwal, Bipul Chatterjee, Sanchita Chatterjee, Jędrzej Chwiejczak, Jennifer Curren, David Evans, Francesca Foliano, Ricardo Gottschalk, Pranav Kumar and Pradeep S. Mehta for their excellent input during the course of the project.

# TABLE OF CONTENTS

<b>1. INTRODUCTION .....</b>	<b>4</b>
<b>2. INDIAN TRADE POLICY AND ECONOMIC PERFORMANCE.....</b>	<b>6</b>
2.1. SYSTEMATIC TRADE POLICY LIBERALISATION: 1992 ONWARDS.....	6
2.2. CURRENT TRADE POLICY.....	12
2.2.1. <i>Preferential Trading Arrangements</i> .....	12
2.2.2. <i>Political Economy of Trade Reforms</i> .....	14
2.3. A SUMMARY OF ECONOMIC PERFORMANCE AND STRUCTURE.....	16
2.3.1. <i>Economic Growth in India</i> .....	16
2.3.2. <i>Trade and Openness</i> .....	20
2.3.3. <i>Evolution of Indian economic structure</i> .....	21
<b>3. ASSESSING THE SHALLOW INTEGRATION IMPLICATIONS.....</b>	<b>25</b>
3.1. ANALYSING THE GEOGRAPHICAL STRUCTURE OF INDIAN TRADE:.....	28
3.1.1. <i>Patterns of Indian Imports</i> .....	28
3.1.2. <i>Patterns of Indian Exports</i> .....	35
3.1.3. <i>EU Imports and Exports</i> .....	37
3.1.4. <i>Conclusions</i> .....	38
3.2. THE SECTORAL COMPOSITION OF GOODS TRADE .....	39
3.2.1. <i>Exports</i> .....	39
3.3. TRADE IN SERVICES .....	52
<b>4. DEEP INTEGRATION .....</b>	<b>57</b>
4.1. FOREIGN DIRECT INVESTMENT (FDI) .....	60
4.2. FACILITATING INSTITUTIONS .....	62
4.3. PUBLIC/PRIVATE OWNERSHIP .....	69
4.4. NON-TARIFF BARRIERS TO TRADE .....	74
4.4.1. <i>NTBs at the detailed disaggregated level</i> .....	74
4.4.2. <i>Using the NTB case study data base</i> .....	76
4.5. TRADE DRIVEN PRODUCTIVITY CHANGE.....	80
<b>5. APPENDIX – ADDITIONAL FIGURES AND TABLES .....</b>	<b>84</b>
<b>6. REFERENCES.....</b>	<b>92</b>
6.1. LINKS TO RELEVANT TRADE BODIES.....	95

## LIST OF TABLES

Table 2.1: Applied Indian Tariffs (Unweighted) 1990-2005.....	7
Table 2.2: Tariff Peaks on Indian imports from the EU in 2004 .....	8
Table 2.3: Tariff Peaks on Indian exports the EU in 2004.....	9
Table 2.4: Preferential Trade Agreements involving India.....	13
Table 2.5: Growth Data, 1950-2004.....	18
Table 2.6: Indicators of Openness.....	20
Table 3.1: Finger-Kreinin indices for export flows at HS 6 digit 2004 .....	31
Table 3.2: India – Top 15 export sectors (2004).....	32
Table 3.3: European Union RCAs – Top 15 export sectors.....	33
Table 3.4: Indian Exports by ISIC2 - Shares .....	42
Table 3.5: Indian Exports to EU by BEC.....	42
Table 3.6: Indian Exports - Decile analysis - Number of products.....	43
Table 3.7: Indian Exports - Decile analysis - Number of products.....	44
Table 3.8: Indian Imports by ISIC2 (w.o. petroleum).....	48
Table 3.9: Indian Imports from EU by BEC .....	49
Table 3.10: Indian Imports - Decile analysis - Number of products.....	50
Table 3.11: Indian Imports from the EU - Decile analysis - Number of products.....	51
Table 4.1: Net Capital Stock in Industry and the Share of public sector .....	71
Table 4.2: Disinvestments in public sector undertakings.....	72
Table 4.3: Disinvestments Proceeds during 2003-04.....	73
Table 4.4: Non-tariff barrier in India - 2004 .....	75
Table 4.5: Database: Information and sources .....	77
Table 4.6: Comparative Indicators of Intra Industry Trade 1992 - 2004 .....	82
Table 4.7: Indian cumulative FDI Inflows 2003-2006.....	83
Table 5.1: Tariff Peaks on Indian exports to India.....	85
Table 5.2: Indian Tariff structure and average tariffs 1998-2002.....	87
Table 5.3: Indian NTB Peaks (WTO database).....	89

## LIST OF FIGURES

Figure 2.1: Average Indian Tariff over time 1990-2005.....	7
Figure 2.2: Growth of GDP in India 1950-2005 .....	17
Figure 2.3: Growth of India GDP per capita 1980-2007.....	19
Figure 2.4: Value of Indian Exports and Imports of goods 1990-2004 .....	21
Figure 2.5: Structure of Indian economy 1950-2005 .....	22
Figure 2.6: Structure of Indian services 1950-2004 (Share of value added).....	22
Figure 2.7: Sectoral growth rate, average annual.....	23
Figure 2.8: Indian Manufacturing 1994-2005 .....	24
Figure 3.1: Geographical Distribution of Indian Imports 1990-2004 .....	29
Figure 3.2: Geographical Distribution of Indian Imports 1990-2004 (excl. petroleum)...	30
Figure 3.3: Indian Import deciles 1990-2004.....	30
Figure 3.4: EU-India scatter plot of RCAs.....	33
Figure 3.5: Geographical Distribution of Indian Exports 1990-2004 .....	36
Figure 3.6: Indian Export deciles 1990-2004.....	36
Figure 3.7: EU exports by selected trade partners 1990-2004 .....	37
Figure 3.8: EU imports by selected trade partners 1990-2004.....	38
Figure 3.9: Total Indian Exports 1988-2005 .....	39
Figure 3.10: Indian Export of agricultures 1988-2005.....	40
Figure 3.11: Indian Export of Manufactures 1988-2005.....	41
Figure 3.12: Indian Export deciles 1990-2004.....	43
Figure 3.13: Indian Export deciles to EU.....	45
Figure 3.14: Total Indian Imports 1988-2005 .....	45
Figure 3.15: Indian Imports of Consumption Goods 1988-2005 .....	46
Figure 3.16: Indian Imports of Capital Goods 1988-2005 .....	47
Figure 3.17: Indian Imports of Intermediates 1988-2005 .....	47
Figure 3.18: Indian Import Deciles 1990-2004.....	50
Figure 3.19: Indian Import Deciles from EU 1990-2004.....	51
Figure 3.20: Growth of service exports for India.....	52
Figure 3.21: Top 15 service exporters and importers in 2003 .....	52
Figure 3.22: Trend of goods and services RCA for India and EU .....	53
Figure 3.23: Composition of India's Service exports 1998, 2004 .....	54
Figure 3.24: Composition of India's Service imports 1998, 2004.....	54
Figure 3.25: Composition of EU Service imports 1998, 2004.....	55
Figure 3.26: EU-India Bilateral trade in Services .....	56
Figure 5.1: Structure of Indian Agriculture 1950-2004 .....	84
Figure 5.2: Structure of Indian Manufacture 1950-2004 .....	84

# 1. Introduction

This part of the study provides an analysis of some of the key issues arising from a potential EU-India FTA through an examination of key diagnostic indicators. This is achieved through a comparative analysis of such indicators for India and the EU, drawing directly on the methodology in the Sussex Framework. The central features of the Sussex Framework involve the identification of those issues, which need to be borne in mind in evaluating a potential FTA, and then detailing and explaining the information and analytical statistics required for such an evaluation.

In the first instance preferential trade liberalisation involves a process of shallow integration. Shallow (or negative) integration can be defined as the removal of border barriers to trade, typically tariffs and quotas. As is well known the potential net benefits from shallow integration are inherently ambiguous. This arises because of the likelihood of both trade creation (which is welfare increasing) and trade diversion (which is welfare reducing). Trade creation arises when more efficiently produced imported goods from the new partner country replace less efficient domestically produced goods. Trade is “created” and yields welfare gains. Trade diversion occurs when sources of supply switch away from more efficient non-partner countries to less efficient partner countries. This arises because the less efficient partner countries have tariff free access within the RTA and may be able therefore to undercut more efficient non-partner countries. Trade diversion therefore reduces welfare. The net welfare impact of a RTA will depend on the relative size of the two effects<sup>1</sup>.

In addition to these effects there may be further welfare gains arising from the induced growth effects stimulated by, for example, productivity growth, increased specialisation, and/or positive externalities between firms, sectors or across sectors (eg between manufacturing and services) which are typically more likely to arise in the presence of deeper integration. In contrast to shallow integration, “deep” (or positive) integration involves policies and institutions that facilitate trade by reducing or eliminating regulatory and behind-the-border impediments to trade, where those impediments may or may not be intentional. These can include issues such as customs procedures, regulation of domestic services production that discriminate against foreigners, product standards that differ from international norms or where testing and certification of foreign goods is complex and perhaps exclusionary, regulation of inward investments, competition policy, intellectual policy protection and the rules surrounding access to government procurement.

In assessing an RTA it is therefore crucial to first identify the implications arising from the implied shallow integration and then building upon this to consider the possible role and importance of measures of deeper integration such as the role of non-tariff barriers,

---

<sup>1</sup> In the report the term RTA is employed when referring generically to a preferential trading arrangement between countries. The term FTA is used wherever the arrangement under consideration is that of a free trade area.

the importance of emerging regulatory issues, and of the role of services in the evolution of trade, investment and growth arising from such a process of preferential liberalisation.

This part of the report is therefore divided into three sections, which build closely on the key features of the Sussex Framework.

First, it is important to understand the underlying policy environment for the partner countries involved in the proposed agreement, as well as summarising their salient economic features. The purpose of this is to provide a clear snapshot of the underlying economic structure of the partner countries, to understand the direction in which that structure is moving, and the extent of the policy changes which may driving and/or impacting upon that changing structure. This is important because the underlying economic structure of the partner countries and their size will clearly impact on the nature of the flow following on from an agreement, and also on the welfare effects. An examination of the economic structure may also shed light on whether there are any key sectoral issues to be borne in mind, and hence on the political economy implications of a future agreement. This part of the report therefore focuses on the changing policy environment in India, and examines the evolution of its' economic structure over time.

Secondly, we focus on exploring existing and historical patterns of trade both by sector and by partner country, as well as selected diagnostic indicators (such as Revealed Comparative Advantage, and Finger-Kreinin indices). This aim here is primarily to consider the likely implication of an EU-India FTA from a shallow integration perspective. Hence we are interested in identifying key trade partners, and key sectors, and through this to evaluate the likelihood for both trade creation and trade diversion. Here we also consider in more detail the changing nature of patterns of production in the Indian economy, where the purpose is primarily to identify the emerging and/or growth sectors.

Lastly we turn to the issue of deep integration. Although clear and unambiguous indicators for deep integration do not exist, there are indices such as those looking at the extent of intra-industry trade (both vertical and horizontal) which do shed light on these possibilities. Deep integration is more likely to occur in the absence of non-tariff barriers to trade. In addition to looking at IIT indices therefore we also examine the presence of non-tariff barriers to trade in the Indian economy. This is done in two ways. First, we consider the information available in the World Bank database on non-tariff barriers to trade<sup>2</sup>; and secondly we have constructed a detailed database which identifies the presence and significance of existing non-tariff barriers to trade between India and its partner countries. This is based on a range of available secondary sources. In this section of the report we also consider the importance of the climate for FDI in India; the extent of the presence of facilitating institutions; and the role of the public sector in the Indian economy. Each of these is important in enabling deep integration.

---

<sup>2</sup> See Kee, Nicita and Olarreaga (2005).

## 2. Indian Trade Policy and Economic Performance

### 2.1. Systematic Trade Policy Liberalisation: 1992 onwards

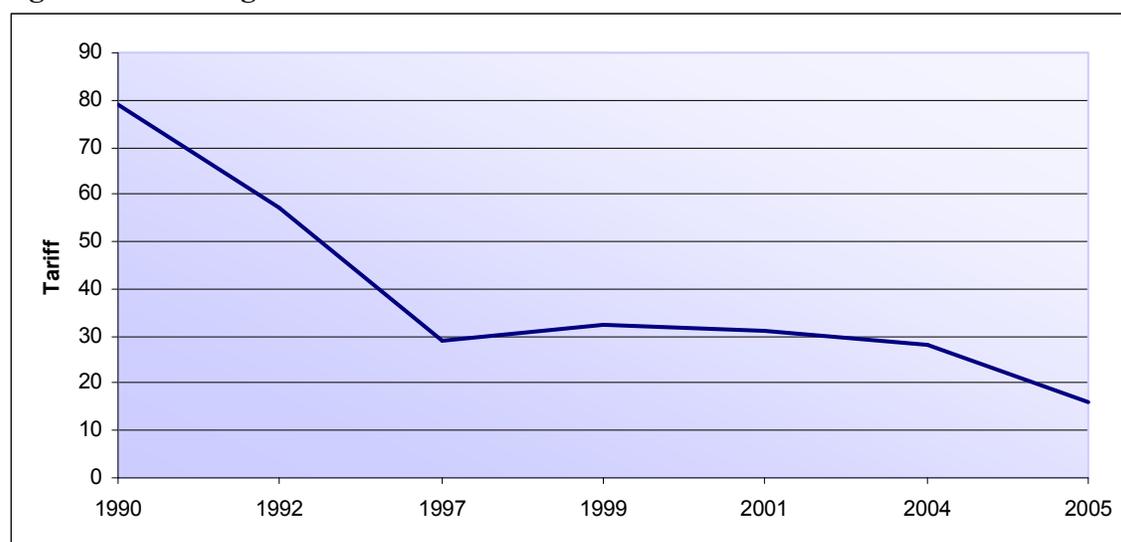
Indian trade policy was extremely protectionist in the years 1950-1975 such that by the end of that period the Indian economy was virtually autarkic. From the mid-1970s onwards there was a period of partial and intermittent liberalisation with an accelerating trend during the 1980s. It was not, however until 1992 that coherent and comprehensive trade reform began to be implemented. It is on that post 1992 story that we concentrate on below. For a good discussion of the more historical aspects of trade policy development refer to Panagariya (2004) and Bhagwati and Srinivasan (1976).

The Central Budget of July 1991 brought a clear change in favour of a move towards a more outward-oriented, market-based economy. The trade liberalisation programme initiated in the Budget was comprehensive though there were subsequent hiccups, with the pace remaining gradual. There was a change in the thinking of the government and from this time onwards the planning of trade policy was determined with a longer term horizon than had previously been the case (one year). The latest trade policy covers the period 2004-09 (Foreign Trade Policy 1<sup>st</sup> Sept.2004- 31<sup>st</sup> March 2009, with effect from 1.4.2006, <http://dgft.gov.in>).

Import licensing system was in principle abolished by the Government of India in 1991. However, the system continued for consumer goods, mainly due to stiff resistance from consumer organisations, political parties, business-industry interest groups and government's balance of payments considerations, until the Dispute Settlement Body (DSB) of the World Trade Organisation (WTO) ruled that the Government had to eliminate import licensing by April 2001. By this time almost all imported goods were free from the licensing system, barring a few items on health, safety and environmental grounds, and edible oils, pulses and petroleum products under canalisation.

The government raised tariff rates substantially during the 1980s (where they rose to as high as 87% in 1990-91 from 20% in 1980-81) and when import licenses were removed in 1991 these high tariffs became an effective tool of import restrictions. All quantitative restrictions (QRs) were removed and replaced by tariffs under the obligations of the Uruguay Round (UR) Agreement on Agriculture (AoA). Figure 2.1 depicts the decline in average tariffs since 1990, and Table 2.1 breaks this down by commodity groupings. As can be seen from Figure 2.1 and from the table the average Indian tariff over the last fifteen years has declined from just under 79% to 16%, which clearly constitutes a major liberalisation of barriers to trade. Much of that decline took place over the period 1990-1997, with more modest subsequent reductions.

**Figure 2.1: Average Indian Tariff over time 1990-2005**



Source: WTO, TRAINS

The tariff reductions have been reasonably uniform across sectors, though some important difference can be discerned. Hence, the highest tariffs throughout apply to Beverages and Tobacco and this is also the sector with the second smallest percentage reduction in tariffs as given in the last column of

Table 2.1. By 2005 the average tariffs in this sector were only just under 100%. The smallest reduction in tariffs is for Food and Live Animals where tariffs decline from 55.1% to 36.9 percent over the 15 years. It is Manufactured Goods, Machinery and Transport Equipment, which experienced the largest decline in tariffs, in the order of 80%, with average tariffs in 2005 of around 15%. More detailed information on tariffs is also available in Table 5.2 in the appendix.

**Table 2.1: Applied Indian Tariffs (Unweighted) 1990-2005.**

	1990	1992	1997	1999	2001	2004	2005	2005 EU	% fall
Total Trade	78.9	57.0	28.9	32.4	30.9	28.3	16.0	4.97	79.8
Food and live animals	55.1	48.4	34.7	35.2	40.3	38.2	36.9	8.5	33.2
Beverages and tobacco	251.8	250.3	144.0	112.3	101.1	98.5	98.0	16.04	61.1
Crude materials,except fuels	62.6	43.3	20.3	23.2	23.2	22.5	15.0	0.84	76.1
Mineral fuels etc.	45.5	34.1	21.8	29.1	28.3	25.3	14.4	1.46	68.4
Animal and vegetable oils...	109.0	62.8	30.6	34.2	54.6	50.9	48.0	4.76	56.0
Chemicals & related	81.5	61.8	29.7	34.7	34.1	29.6	15.7	4.5	80.8
Manufactured goods	82.7	61.2	31.7	35.5	32.4	29.1	15.4	4.16	81.4
Machinery & transport equip.	76.4	52.3	25.1	28.1	27.0	25.6	13.8	2.21	81.9
Miscellaneous manufactures	79.2	55.0	29.6	32.3	29.9	27.2	13.9	5.89	82.5
Commodities n.e.s.	87.1	64.8	39.3	35.5	34.4	30.0	16.7	1.34	80.8

Source: TRAINS

As far as agriculture is concerned India has adopted essentially the same approach as many OECD countries and has chosen high tariff bindings ranging from 100% to 300% percent to replace border measures under the Uruguay Round Agreement on Agriculture, with typically the applied MFN tariff rates being lower than the bound rates.

Average tariff rates are important and informative even at the industry level (technically 2 digit HS level). However, it is important to note that the average tariff alone may not accurately reflect the level of protection in a particular market. It could be the that the government identifies the key products within the industry sector for protection and levies high tariffs on imports of them, while keeping the average tariff relatively low. Such tariff peaks (defined as more than twice the average tariff) are measured in what follows at the 6-digit HS level. This allows us to examine tariffs on around 4500 products/sectors. First we explore the tariff peaks on Indian imports from EU. To do so we have calculated the average tariff for each entry in HS 2 digit classification this gives approximately one hundred different sectors. Then in each of those sectors we look at the individual HS 6 digit products and compare their tariff to the average tariff in that sector. In Table 2.2 below we only present the 16 categories that actually had peaks in them:

**Table 2.2: Tariff Peaks on Indian imports from the EU in 2004**

Cat. (HS2)	Description	No. Prod. Cat.	Av. Tariff in Cat.	Peaks	Av. Tariff in Peaks
87	Vehicles o/t railw/tramw roll-stock, pts & acc	58	34.05	13	100
47	Pulp of wood/of other fibrous cellulosic mat;	17	7.35	5	15
55	Man-made staple fibres.	82	17.2	3	75
26	Ores, slag and ash.	15	6.33	3	15
17	Sugars and sugar confectionery.	14	46.07	2	100
16	Prep of meat, fish or crustaceans, molluscs et	12	41.67	2	100
39	Plastics and articles thereof.	124	15	1	70
52	Cotton.	82	14.94	1	30
38	Miscellaneous chemical products.	62	16.9	1	50
33	Essential oils & resinoids; perf, cosmetic/toi	35	23.43	1	100
41	Raw hides and skins (other than furskins) and	34	11.47	1	30
8	Edible fruit and nuts; peel of citrus fruit or	19	31.05	1	100
7	Edible vegetables and certain roots and tubers	18	35	1	100
21	Miscellaneous edible preparations.	14	39.29	1	160
6	Live tree & other plant; bulb, root; cut flower	6	21.67	1	60
10	Cereals	1	0	1	30
<b>Total</b>		<b>593</b>		<b>38</b>	

Source: Own Calculations, TRAINS; HS combined. For definition of tariff peaks please refer to main text.

The second column gives the total number of products which are contained within that particular HS 2 digit category, and the fourth column gives the amount of tariff lines in a particular category that can be treated as a tariff peak. So for example in the category 87, there are 58 different products and 13 of them have a tariff greater than 68% (twice the average tariff in that category), among those thirteen products the average tariff is equal to 100%. We can see that there are not many tariff peaks in the Indian tariff lines, on the 4119 goods that the India imported in 2005 tariff peaks exist on only 38 tariff lines. This represents approximately 1% of the tariff lines. However, the tariff peaks themselves can be quite high ranging from 15% for HS47 to 160% for HS21.

In comparison, the tariffs faced by Indian exports to the European Union are generally considerably lower but there are far more tariff peaks<sup>3</sup>. There are 59 sectors out of the one hundred that have tariff peaks, with a total of 371 tariff peaks. This corresponds to 10% of the EU's import tariff lines. However those peaks are quite different from the Indian ones, the average tariff in the peak is much lower, and ranges from 0.21% for HS27 to 52.4% for HS24. The table below gives the tariff peaks for the 10 industries with the highest average peaks. The full table can be consulted in the Appendix.

**Table 2.3: Tariff Peaks on Indian exports the EU in 2004**

Cat. (HS2)	Description	No. Prod. Cat.	Av. Tariff in Cat.	Peaks	Av. Tariff in Peaks
24	Tobacco & Manuf. Tobacco Substitutes	8	21.61	1	52.40
4	Dairy, Eggs, Honey, & ed. Products	7	4.25	1	17.30
3	Fish & Crustaceans	37	6.69	2	14.23
19	Preps. of Cereals, Flour, Starch or Milk	14	2.35	1	14.10
7	Edible vegetables	36	5.73	1	14.02
21	misc. Edible Preparations	12	5.74	1	12.80
8	ed. Fruits & Nuts, Pell of Citrus/Melons	26	3.51	6	10.22
6	Live Trees & Other Plants	10	3.55	1	8.25
53	Veg. Textile Fibers Nesoai, Yarns & Woven etc.	24	2.41	5	7.34
87	Vehicles o/t railw/tramw roll-stock	55	2.33	14	7.19
...	...	...	...	...	...
27	Mineral Fuels, Oils, Waxes & Bituminous Sub	13	0.02	1	0.21
<b>Total</b>		<b>2767</b>		<b>371</b>	

Source: Own Calculations, TRAINS; HS combined

<sup>3</sup> India is a beneficiary of the EU's GSP scheme and has now graduated out from three products, which includes leather, raw hides and skins (CN Code Chapter 41); articles of leather and fur skins (CN Code Chapter 42 and 43); and textiles CN Code Chapter 50 to 60).

In summary, over the last decade we have witnessed a gradual but substantial decline of the Indian import tariffs on all goods with the smallest decline for Beverages and Tobacco. Indian tariffs are on average considerably higher than in the EU with an average unweighted applied import tariff of 17%, while the average EU tariff on Indian exports is 2.5%. When we look at tariff peaks we see that while India has fewer tariff peaks (38) the average tariff in the peaks is much higher than when looking at EU tariffs and their peaks. For India only in only two cases is the average tariff in the peaks under 20% - all of the rest are 30% or more and the most common peak is 100%, with the highest at 160%. The EU typically has lower tariffs, but correspondingly with more tariff peaks – and where there are some high tariffs in those peaks.

The signing of a free trade agreement between the EU and India will therefore imply a more substantial change in tariffs for India than for the EU, and consequently therefore more structural adjustment. It is worth noting that the greater degree of structural adjustment will occur not simply because of the higher average tariff levels in India, but also because of the far greater importance of the EU in Indian trade, in comparison to the importance of India in the trade of the EU (this issue is taken up in more detail in the next section of this report). Assuming all sectors were included in a FTA then the biggest impact would fall on Food, Beverages and Tobacco, and on Animal and Vegetable Oils as these are the sectors currently with the highest tariffs, and in many cases also with the highest tariff peaks. Outside of this there are a few industries in which tariff peaks appear to be important such as HS87 (Vehicles other than (o/t) railway/trams, rolling stock, parts and accessories), HS55 (man-made staple fibres), HS39 (Plastics and articles thereof), HS52 (Cotton), and HS38 (Miscellaneous chemical products). These are all sectors therefore which are likely to be more resistant to tariff reductions under a FTA. Of course it is far from clear that all sectors would necessarily be included in a FTA, as the WTO requirement is only for “substantially all trade” to be covered. A common interpretation of the meaning of “substantially all trade” increasingly appears to be that 90% of trade is covered. Hence, it seems plausible to assume that there will be pressure within India to protect its’ sensitive sectors by including them in the excluded sectors, and that existing levels of protection provide an indication of which are the sensitive sectors. Clearly also to the extent that the high tariff industries are so protected that this lessens the structural impact of an FTA, but it may also lessen the welfare gains.

In addition to considering tariff barriers, it is also important to consider the role of other impediments, and non-tariff barriers to trade. In the pre-1991 period India used a number of schemes for both export promotion and import restrictions. The majority of the import restriction schemes were eliminated as a consequence of the import liberalization policy introduced after 1991. There are currently no additional customs duties such as Special Additional Duty (SAD) on top of these rates (Appendix 3). However, there are numerous exemptions based on end user or other criteria. Duty exemption schemes enable duty free imports of inputs required for export promotion. Duty exemption schemes consist of (a) Advance Authorization scheme and (b) Duty Free Import Authorization (DFIA). A Duty Remission scheme enables post export replenishment/remission of duty on inputs used in the export product. Duty remission schemes consist of (a) DFRC (Duty Free Replenishment Certificate) (b) DEPB (Duty Entitlement Passbook) and (c) DBK (Duty

Drawback Scheme). See Ministry of Commerce & Industry, Government of India, Foreign Trade Policy & Procedures 2004-09 Chapter 4 Duty Exemptions & Remission Scheme. (<http://dgft.gov.in>). The Export-Import Policy 2004-09 has retained (with modifications) some of the earlier schemes (some with change in nomenclature as well) and introduced some new schemes.

Most of these schemes are applicable (extensively) to all products, except the products prohibited under ITC (HS), which is specified by the Director-General of Foreign Trade (DGFT) from time to time as and when situation demands. Inclusion/exclusion of any product(s) from the prohibited list or from canalization is under the jurisdiction of the DGFT, who does so by Public Notice. The promotional schemes, are announced by the Ministry of Commerce and Industry and are implemented by the DGFT. Several modifications have been made to these schemes in the recent past, especially since 1991. It is worth also pointing out that although in the setting of India's foreign trade policy the time horizon has moved to longer term planning with the production of five-year plans, there are nevertheless frequent modifications (annually or biannually) often in conjunction with the Central Budget.

In addition to import controls/tariffs India has been restricting exports of several commodities for many years. Prior to 1991, 439 items were subject to export controls, 185 items under prohibition, 55 under licensing, 38 under quantitative ceilings, 49 under canalization and 112 items under pre-specified terms and conditions. In 1992 the export-import policy reduced the controlled items to 296 with prohibited items reduced to 16. Currently export prohibitions are applicable to a small number of items mainly on health, environmental or moral grounds. Export restrictions (quantitative/ceiling/canalisation) are currently applicable to cattle, camels, cereals, fertilizers, groundnut oil, pulses petroleum products etc. Policy related to exports is given in Chapter 2 of the Foreign Trade Policy. Schedule2. Appendix 1 of the ITC (HS) specifies the list of items, which may be exported without a licence/certificate/Authorization/permission but subject to terms and conditions specified in this behalf<sup>4</sup>.

With its diversified manufacturing base, India has been one of the major users as well as one of the major targets of anti-dumping measures in the world. Between 1995 and 2005, out of a global total of 2743 anti-dumping cases, India was the most frequent user with 412 cases initiated against 51 countries including EU, China, Taiwan, Korea, USA, Japan and Singapore. India levied anti-dumping duties on products such as chemicals and petrochemicals, pharmaceuticals, fibre/yarns, steel and other metal and consumer goods. There were just 6 cases of anti-dumping initiated by India in 1995, which peaked with 79 and 81 cases in 2001 and 2002 respectively., however thereafter a significant reduction in such cases and only 21 cases were filed in 2004 by India. During the same period 115 investigations were initiated against India. (Economic Survey, 2005-06, Government of India, Ministry of Finance, pp.118-119, table 6.11).

---

<sup>4</sup> Source: Ministry of Commerce & Industry, Government of India, Foreign Trade Policy 2004-09: ITC (HS) Schedule2. (<http://dgft.gov.in>)

## **2.2. Current Trade Policy**

The liberalisation process has been accompanied by a more stable and transparent trade policy regime, with a medium to long-term view of policy as opposed to a short-run annual approach with unpredictable and discreet changes therein. Hence, the new Foreign Trade Policy (FTP) 2004-09 (which subsumes the 2002-07 Trade Policy) takes an integrated view of the overall development of India's foreign trade and is built around two major objectives. First, that of doubling India's share of global merchandise trade by 2009 and secondly, the use of trade policy as an effective instrument of economic growth with a strong emphasis on employment generation.

With regard to specifics the policy aims at unshackling controls and creating an atmosphere of trust and transparency by bringing down transactions costs and identifying and nurturing focus areas to develop India as a global hub for manufacturing, trade and services. This is to be achieved in various ways which include: the role of state governments in providing an enabling environment for boosting international trade by setting up an Inter-State Trade Council; the revitalization of the Board of Trade by redefining its role and through the involvement of experts on trade policy; avoiding an inverted duty structure and ensuring that domestic sectors are not disadvantaged in trade agreements through wider stakeholders consultations; and through the encouragement of the greater integration of the Indian economy into the world economy both via the multilateral process, but also increasingly through regional trading arrangement.

### **2.2.1. Preferential Trading Arrangements**

India has, of late, engaged itself in forming bilateral/regional economic cooperation in variety of forms. The trade agreements are new "pillars" in India's economic diplomacy. Having decided that free trade pacts are a sine qua non for the country's economic development India has drawn an ambitious agenda for negotiating trade and economic cooperation agreements from countries in the Far East to those in Latin America and the European Union. The pacts, if all completed, will not only cover every country in the region spanning the Persian Gulf to the Malacca Straits but also Mauritius, Israel, Russia, Magnolia, Japan, China, South Korea, Afghanistan, Egypt, Chile, South Asian Custom Union (SACU), the African Union, the Mercosur, the European Union (EU) and the Association of South-East Asian Nations (ASEAN). India has already entered into a number of framework agreements for preferential trade and these are summarised in Table 2.4 below.

**Table 2.4: Preferential Trade Agreements involving India**

Country	Partner	Status of the Negotiation	Agreement Type
India	ASEAN	Negotiation in progress	Bilateral FTA
India	Afghanistan	2003	Bilateral FTA
India	Bangkok Agreement	1975	Regional Trade Agreement
India	Bangladesh	Negotiation in progress	Bilateral FTA
India	Bhutan	1995	Bilateral FTA
India	BIMSTEC	2004	Regional Trade Agreement
India	Chile	Negotiation in progress	Bilateral FTA
India	China	Under study	Bilateral FTA
India	Egypt	Negotiation in progress	Bilateral Trade Agreement
India	GCC	Under study	Bilateral FTA
India	GSTP	1989	Inter-Regional Trade Agreement
India	Indonesia	Under study	Bilateral FTA
India	Mauritius	Under study	Bilateral FTA
India	MERCOSUR	2005	Bilateral FTA
India	Nepal	1996	Bilateral FTA
India	SAARC (SAFTA)	2006	Regional Trade Agreement
India	SACU	Negotiation in progress	Bilateral FTA
India	Singapore	2005	Bilateral FTA
India	Sri Lanka	1998	Bilateral FTA
India	Thailand	2003	Bilateral FTA

Source: UNDP, THE GREAT MAZE Regional and Bilateral FTAs in Asia, Trends, Characteristics, and Implications for Human Development: Policy Paper, Asia-Pacific Trade and Investment Initiative, UNDP Regional Centre in Colombo, December 2005, Table 1, Pp.21-29.

The recently concluded Comprehensive Economic Cooperation Agreement (CECA) with Singapore was implemented from 1<sup>st</sup> August 2005. Member countries of South Asian Association for Regional Cooperation (SAARC) signed the Agreement on South Asia Free Trade Area (SAFTA) in January 2004 and the tariff liberalization programme agreed under its Agreement has come in to operation from July 1, 2006. Note, however, that successful implementation of SAFTA is being hampered by the ongoing political difficulties between India and Pakistan. A Framework Agreement on Comprehensive Economic Cooperation between ASEAN and India, a Framework Agreement for a Bangladesh, India, Myanmar, Sri Lanka and Thailand Economic Cooperation (BIMSTEC) RTA in goods, services and investment are under negotiation and an India-Thailand Framework Agreement have also been signed. Finally, India-China, India-Japan, and India-South Korea joint study groups have also been set-up.

### **2.2.2. Political Economy of Trade Reforms**

India is a multi-party parliamentary democratic federal country where Centre and States have been assigned specific roles to play. International trade policy both in its' formulation and implementation falls under the domain of the Centre Government. Any policy change/reform, be it trade policy, has to be approved by the parliament which is normally preceded by consultations within the political parties, special committees/expert groups reports and extensive discussions both within and outside parliament. All this implies that policy making and reforming is reasonably predictable in India.

So far as sensitive sectors in international trade are concerned, the entire agricultural sector (raw materials, semi processed and final consumption goods) falls under the category of being a sensitive sector. This is due to both livelihood and food security considerations. Since more than 60 percent of population directly dependent on this sector and majority of the farmers are marginal and small there is a strong view that they need to be protected. This then typically becomes a major election plank of every national political party in India. Under the constitutional arrangements agriculture falls under the purview of State governments. Therefore any policy introduced by the Central Government related to agriculture has to be approved by the state governments and they are free to take their own decisions, in favour or against the centre's policy decision. However, in areas covered under the Concurrent List of the Constitution, the decisions of the Union Government are binding for the States. At the state level also, the farming community and related interest groups frequently have much closer links and contact with the ruling political party. Inevitably then this results in the greater exertion of influence on policies especially related to the sector itself. Therefore any change/reform relating to agricultural policy becomes highly sensitive not only for the affected people but for the state (as well as for central) governments.

As far as the industrial sector is concerned, licensing and reservation policy is declared by the Central Government and States follow it. Under the dispensation of new industrial policy of 1991 and subsequent amendments there are only 2 industries left under the Public Sector where the Central Government invests and regulates. They are: Atomic Energy and Railway Transport. Under the licensing system there are now only 6 industries:

1. Distillation and brewing of alcoholic drinks
2. Cigars and cigarettes of tobacco and manufactured tobacco substitutes
3. Electronic Aerospace and defence equipment: all types
4. Industrial explosives including detonating fuses, safety fuses, gun powder, nitrocellulose and matches
5. Hazardous chemicals: Hydro cyanic acid and its derivatives; Phosgene and its derivatives; Isocyanates and di-isocyanates of hydrocarbon, not elsewhere specified (example: Methyl Isocyanate)

6. Drugs and Pharmaceuticals (according to modified Drug Policy issued in September, 1994 and subsequent amended in February, 1999).

In manufacturing industries the broad pattern and direction of policy is decided by the Central Government through the national Industrial Policy. Declarations of inclusion/exclusion of any industry(s) in public sector and reservation under small-scale industries (SSI) etc. are under the jurisdiction of the central government.

The industries are covered under both Union and State Lists, therefore both central and states can formulate policies related to development of industries<sup>5</sup>. Any fiscal concessions, environmental and pollution control measures and standards measures declared by the Union government are deemed to be applicable to all states. In addition States can also take additional measures relating to the above matters. The acquisition and allotment of land for industries is a State-level issue, as is law & order, labour (trade union) relations, environment pollution. In these areas States can make their own laws and regulations. The States may provide various kinds of concessions and incentives (including tax) to attract prospective entrepreneurs. For example, a concessions-incentives war was witnessed between various states especially in the 1980s.

There are now few restrictions on the location of industry and entrepreneurs are free to choose depending on for example which state might offer better facilities in terms of land allotment, tax exemptions, or in addition to available infrastructures etc. Land acquisition and allotment for setting industries has, of late, become a very politically sensitive issue in almost all states because of the absence of any good and effective resettlement and rehabilitation (R&R) policy on the part of states governments.

There is no “strategic” sector, especially in manufacturing where there are any direct or overt political economy dimensions involved. The current approach to industrial policy liberalization appears to be almost universally supported by stakeholders, be it centre or state governments or business chambers or industry organizations or trade unions or consumers. This is reflected in the absence of movements/agitations/opposition, to these policies, including the lack of opposition to the policy of attracting more domestic and foreign companies. Indeed there has been/is no opposition, political or otherwise, to the opening up of the industrial sector to international investment even in those sectors where 100 percent/ or less foreign equity has been allowed. There has been some opposition both from political parties and social organizations regarding the liberalisation of imports of consumer goods, but that has now largely been settled<sup>6</sup>.

---

<sup>5</sup> All industries are in the State list except two which are mentioned in Union list. These are: industries declared by parliament by law to be necessary for the purpose of defence or for the prosecution of war (item no 7 of the union list); and industries, the control of which by the union is declared by parliament by law to be expedient in the public interest (item no 52 of the union list).

<sup>6</sup> During late nineties, when the balance of payments position of India eased, the Government wanted to lift restrictions on imports of consumer goods. However, stakeholders, consumer groups, business chambers, political parties, trade unions were opposed to this mainly because they had enjoyed protection for long. It was only when the WTO Dispute Settlement Body in 2001 ruled against this that the government had to

There is some opposition to liberalisation in the soft drinks industry on the grounds of health safety and environmental issues (e.g. arising from the excessive use of ground water causing a rapid fall in the water table especially in Rajasthan)

Service sector liberalization is a more complex and difficult issue. In the areas where parliamentary approval is required for the enactment of laws allowing opening up of a specified sector there is a very high political cost involved and doing so becomes much more difficult. Opposition parties may get some political mileage out of opposing such liberalisation. For example, the opening up of retail sector is currently a controversial, especially in the wake of forthcoming state elections in U.P. and Punjab, where political parties are concerned not to antagonise rural voters. Liberalisation of this opens the door to the opposition to argue that the livelihoods of millions of small rural traders would be destroyed and that foreign retail firms would capture their trade. The areas where only administrative orders needed to bring out a change/opening up to foreign investment, political sensitivity also has to be taken into account along with affirmative decision of the concerning department. This is the reason why the services sector is opening up exceedingly slowly in India. As far higher education is concerned, the two respective ministries, viz., the Ministry of Commerce (advocating for liberalization) and the Human Resources Development (HRD) Ministry (disallowing opening up) have diametrically opposing views. However in legal services the two ministries (Ministry of Commerce and Ministry of Law) are now (with Bar Council of India) engaged in serious dialogue towards liberalisation. There is now a more realistic possibility of opening up of this sector to foreign companies. The Central Government has decided to open up the retail sector, albeit gradually and only some strategic areas to begin with. Telecom, Insurance, Banking etc have already been opened up. Though there is some resistance from the left parties on the raising of the foreign investment cap (resisting 100% FDI) in some of these sectors.

### ***2.3. A summary of economic performance and structure***

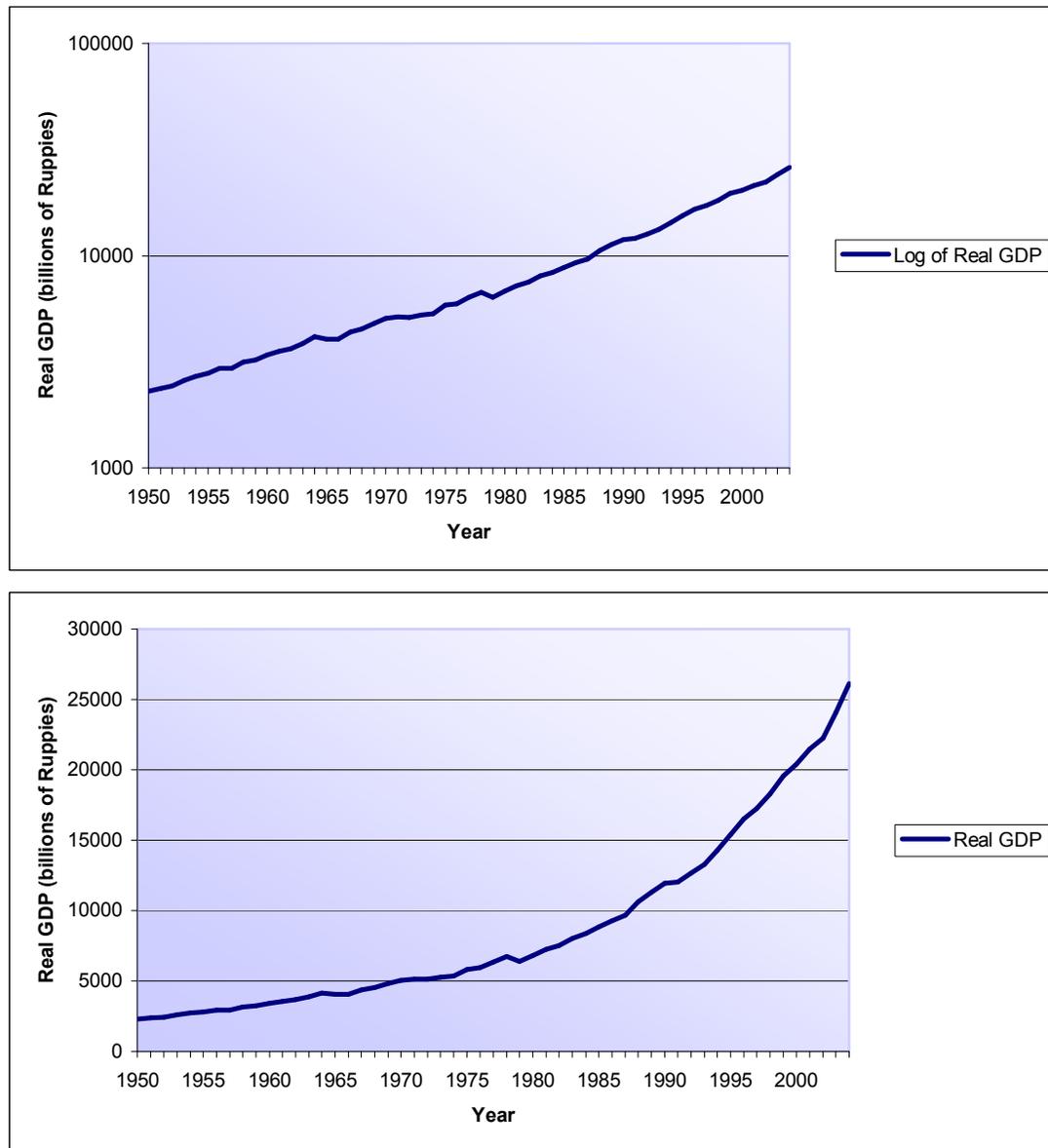
#### **2.3.1. Economic Growth in India**

The growth experience of India since independence in 1947, has been relatively unique amongst developing countries. It achieved neither the 'miracle' growth rates (exceeding 6 percent and going as high as 10 percent annually) of neighbouring East and Southeast Asian nor prolonged periods of stagnation and/or decline as experienced by some African and Latin American countries. Instead growth has been relatively stable, and in consequence Indian GDP has increased significantly during the period, and this can be seen in Figure 2.2 below.

---

open the market. By this time consumers and other stakeholders realised the benefits of openness, so opposition to consumer goods imports liberalisation subsided.

**Figure 2.2: Growth of GDP in India 1950-2005**



Source: IMF World Economic Outlook 2006

From 1950 to 1980 India adopted a classic import substitution approach to development, with a socialist dimension, and over this period grew at the so-called “Hindu” rate of 3.5% per annum. From 1980 onwards, however, the Indian state has shifted more towards the East Asian models of development and has achieved a higher growth rate of over 5% per annum. Table 2.5 shows the growth performance of Indian economy during this entire period between 1950 and 2004 divided into several sub-periods based on the economic policy regime pursued by the Government of India.

**Table 2.5: Growth Data, 1950-2004**

	1950-64	1965-79	1980-90	1991-2004	2000-2005*
GDP growth	3.7	2.9	5.8	5.6	6.2
Industrial growth	7.4	3.8	6.5	5.8	6.6
Agricultural growth	3.1	2.3	3.9	3.0	2.3
Gross investment/GDP	13	18	22.8	22.3	24.1

Source: Atul Kohli, Politics of Economic Growth in India, 1980-2005, EPW, April, 2006, table 1. Calculations based on 1993-94 price series; \* Own calculations are based 1999-2000 price series from Economic Survey 2005-06, Table 1.6.

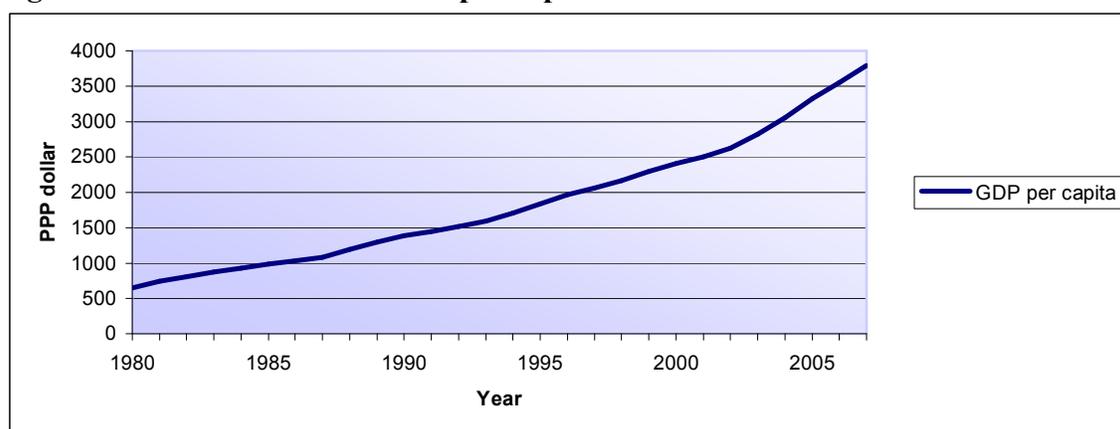
A glance at the table above clarifies that economic growth in India accelerated noticeably around 1980, and has continued to high since 2000. The growth has been particularly high in industry, with agriculture experiencing lower rates of growth. Interestingly, the table also indicates that the ratio of gross investment to GDP since the 1980s has risen only slightly from 22.8% to 24.1%.

Explaining the slow yet steady growth in India during 1950-80 period, Arvind Panagariya (2004) writes “while the credit for steady growth without stagnation or declines goes to the macroeconomic stability and policy credibility that the government provided, the blame for the relatively low rate of growth, especially during 1950-80, must be assigned to the myriad microeconomic distortions and heavy state intervention that straitjacketed the entrepreneurs (policy changes, whether good or bad, have been largely predictable in India. Consultations with the relevant parties, extensive discussions and special committee reports have usually precede all major policy actions). Through strict investment licensing, the government effectively stamped out domestic competition and through strict import licensing, it eliminated foreign competition. It was only during the second half of the 1980s that the government began to loosen its grip on investment and import licensing followed by more systematic and comprehensive opening up in the 1990s and beyond.”

The rapid growth of India in eighties and nineties was accompanied by a reduction in poverty and with a substantial growth in GDP per capita based on purchasing-power-parity. From the World Development Indicators (World Development Report 2006) the national poverty rate which is expressed as a percentage of population living below the national poverty line<sup>7</sup>, decreased from 36.3 percent in 1993-94 to 28.6 percent in 1999-2000. In terms of the percentage of people existing on less than \$1 per capita per day, this declined from 47% in 1994 to 35.3% in 1999-2000, while in terms of \$2 per capita per day the decline was somewhat smaller moving from 87.5% to 80.6% over the same time period.

<sup>7</sup> National estimates are based on population-weighted subgroup estimates from household surveys.

**Figure 2.3: Growth of India GDP per capita 1980-2007**



Source: IMF World Economic Outlook 2006

There is some debate as to the underlying causes of the sustained high rates of growth since 1980 which are well documented in Panagariya (2004).<sup>1</sup> Those who have attributed the acceleration in growth in the 1980s to liberalisation include Desai (1999), Pursell (1992) and Virmani (1997). Desai focuses on liberalisation in the industry and industrial growth and Pursell on trade liberalisation during the decade of 1990s. Panagariya argues strongly that the growth in the 1980s was ‘fragile’ and that the reason why the average growth rate during 1980s looked comparable to that in the 1990s was due to the quantum jump in the average growth rate during the last years of 1980s, i.e., 1988-91. In contrast the average growth rates during 1990s have been more robust and far less volatile.

Turning to the 1990s, DeLong (2001) argues that in the absence of the second wave of reforms in the 1990s, it is unlikely that the rapid growth of the second half of the 1980s could have been sustained. In contrast Dani Rodrik (2002) has suggested that the change in official attitudes over the change in the policies that brought about the acceleration in growth would have sustained even without the reforms of 1990s. Panagariya in turn suggests that, “... one must confront the question how officials could have conveyed this change to entrepreneurs without a change in the policy or its implementation? It is only through the policy changes such as the expansion of the Open General Licensing list at the expense of the banned and restricted import licensing lists and change in the implementation strategy as, for instance, by issuing import licenses more liberally that officials could convey the change in their attitudes to entrepreneurs. By extension, the absence of further reforms would have surely signalled to entrepreneurs a reversion back to the old attitudes”.

While there is some debate as to the precise causes driving the relatively high growth rates experienced by India over the last decade or so, it is clear that both trade liberalisation and domestic economic reforms played an important role. From the perspective of the EU, and the possible FTA with India, it is clear that India is a large,

1 Panagariya, Arvind. 2004. “India in the 1980s and 1990s: A Triumph of Reforms.” IMF Working Paper WP/XX/04

rapidly growing, and increasingly successful economy – hence its potential importance as a trading partner for the EU.

### 2.3.2. Trade and Openness

The preceding section has detailed the changing internal and external policy focus of the Indian economy. One aspect of this was the substantial decline in tariffs from 1990 onwards. This decline in tariffs has then has been reflected in the increased openness of the Indian economy, which has seen the share of exports of goods and services to GDP rise from 7.3% (1990) to 13% (2000) to 19% (2004), and similarly the share of imports of goods and services to GDP rising from 9.9% to 14% to 21%.

Table 2.6 below provides a comparison of with other countries and country groupings. Here it is interesting to note that the openness of the Indian economy with regard to both imports and exports is now approaching the average for high-income countries (23%) though is still below the average for low (26%) and middle income countries (32%) respectively. Of course the Indian economy is large and diversified, measured levels of openness would thus tend to be lower than for smaller economies. A second feature, which emerges from the table is with regard to the change in openness in recent years. Both China and India have seen a substantial increase in openness on the imports side, and to a lesser extent Brazil, and all three countries have seen a dramatic increase in openness with regard to exports.

As we will see later in this section the EU is one of India’s principal trading partners. Clearly then a prospective FTA could in principle accelerate this process of openness - both via the further reduction of tariff barrier, but also through reducing non-tariff barriers and through further stimulation of investment and thereby growth. However, it is also plausible that considerable trade diversion would arise as a result of an FTA which would then mitigate against the prospective increases in openness.

**Table 2.6: Indicators of Openness**

Country	Imports of goods & services as % of GDP			Exports of goods & services as % of GDP		
	2000	2004	Growth	2000	2004	Growth
Brazil	12	13	8.3	11	18	63.6
China	21	31	47.6	23	34	47.8
High income	24	23	-4.2	24	22	-8.3
India	14	21	50.0	13	19	46.2
Low income	21	26	23.8	19	24	26.3
Middle income	29	32	10.3	30	35	16.7

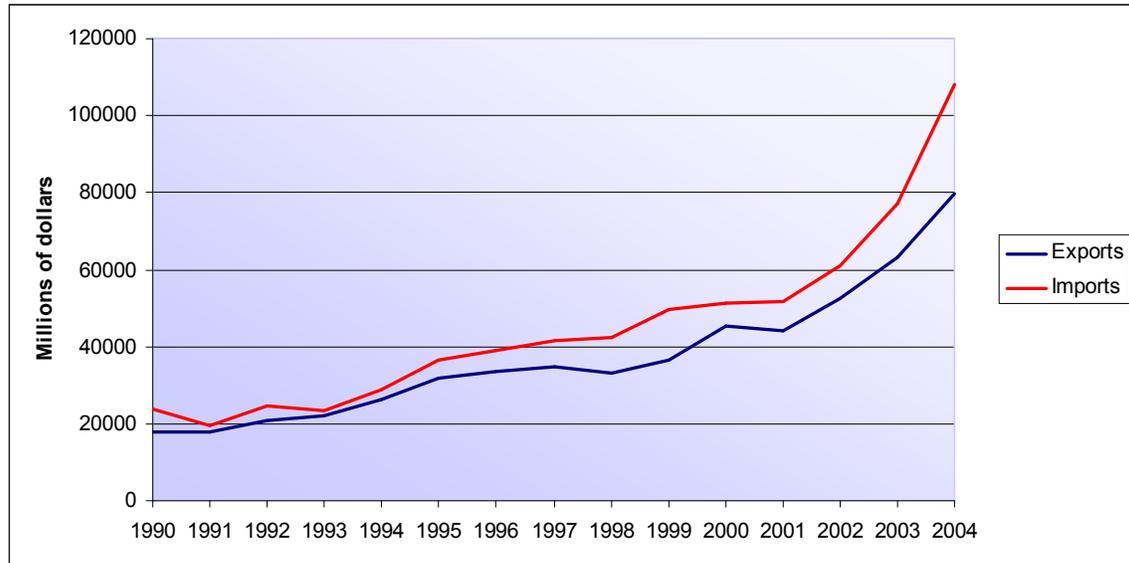
Source: World Bank WDI 2006

These depicted changes in openness are then reflected in the data on the changes in India’s exports and imports. India’s share in the total world exports declined from about 2 percent in the 1950s to just 0.5 percent in 1980s and then recovered back to around 0.8

percent in 2004. The growth rate of Indian exports since 1991 has been faster than that of world exports.

Figure 2.4 shows the change in Indian exports and imports since 1990. We see from the figure that both exports and imports have grown considerably over the period, with acceleration in the rate of growth in more recent years.

**Figure 2.4: Value of Indian Exports and Imports of goods 1990-2004**

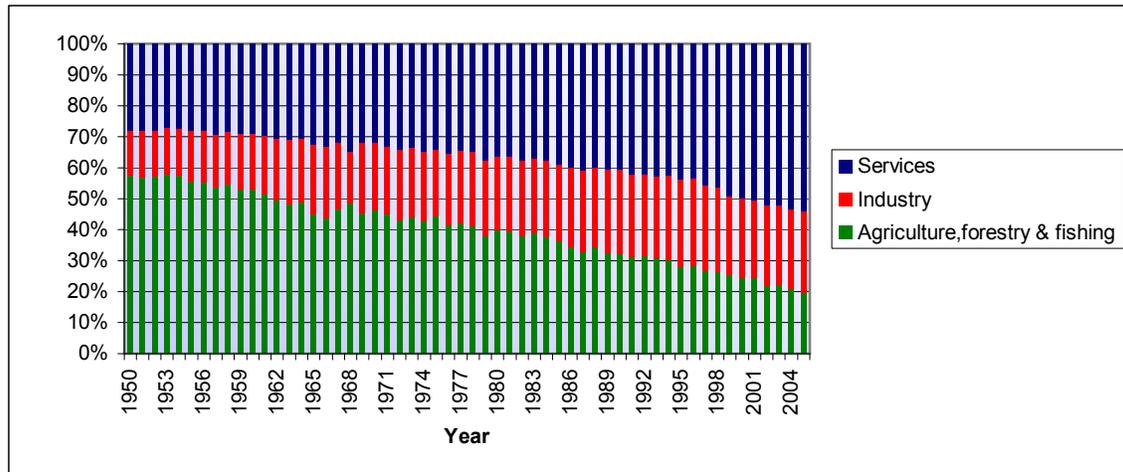


Source: COMTRADE; HS rev.1 classification

### 2.3.3. Evolution of Indian economic structure

Figure 2.5 outlines the evolution of the broad structure of the Indian economy over the last fifty years. From this we see that the structure has changed significantly with the increasing importance of services in GDP. Its share rose from around 15% of GDP in 1950, to over 26% in 2005. Interestingly, half of this increase occurred during the nineties. The share of industry has also risen, from 15% to 26%. Corresponding to this increase in services, it is agriculture which has seen its share of GDP decline substantially from close to 60% in 1950 to around 20% in 2005. It is also worth noting that the decline in the share of agriculture has continued over the last decade or so.

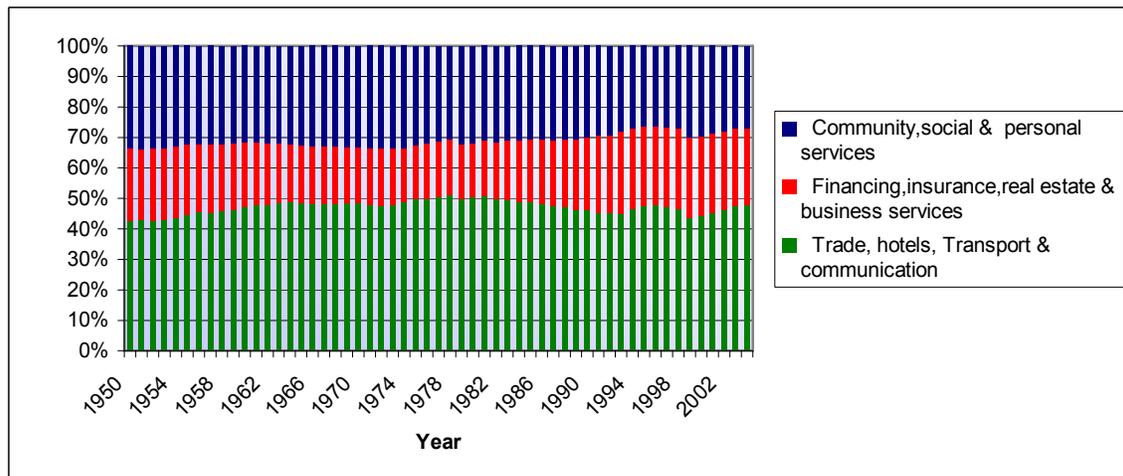
**Figure 2.5: Structure of Indian economy 1950-2005**



Source: Central Statistical Organization, Government of India

Figure 2.6 provides a breakdown of services between three key categories (community social and personal services; finance, insurance, real estate and business services; and trade, hotels, transport and communication) also since the 1960s. This shows that the share of each of these three broad categories has been changing slowly over the time period. The community services has fallen from a bit under 40% to 25%, while other services shares have grown.

**Figure 2.6: Structure of Indian services 1950-2004 (Share of value added)**

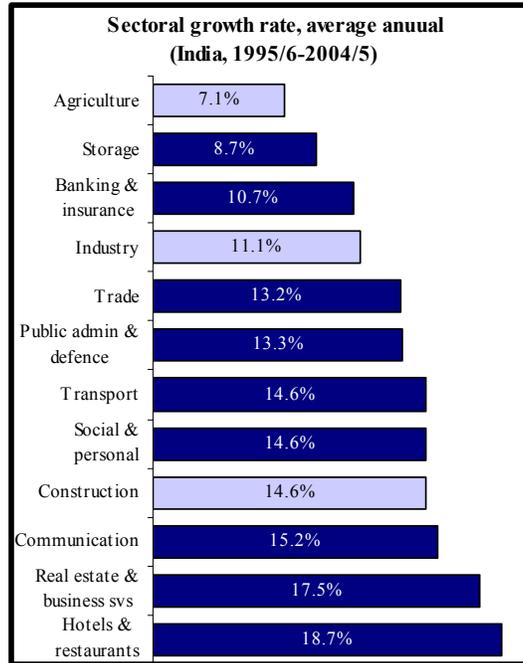


Source: Central Statistical Organization, Government of India

A somewhat more disaggregated breakdown is provided in Figure 2.7. From this we can see that the increase in Indian services has been led by hotels and restaurants, real estate and business services, and communication - all of which have grown at more than 15% over the period 1995/6-2004/5. Other than storage services, all other services sub-sectors have registered double-digit growth rates. From the Figure we can again see the lower

rate of growth in Agriculture (thus reflected in its' declining share earlier), and a growth rate over the period for industry of just over 11%.

**Figure 2.7: Sectoral growth rate, average annual**

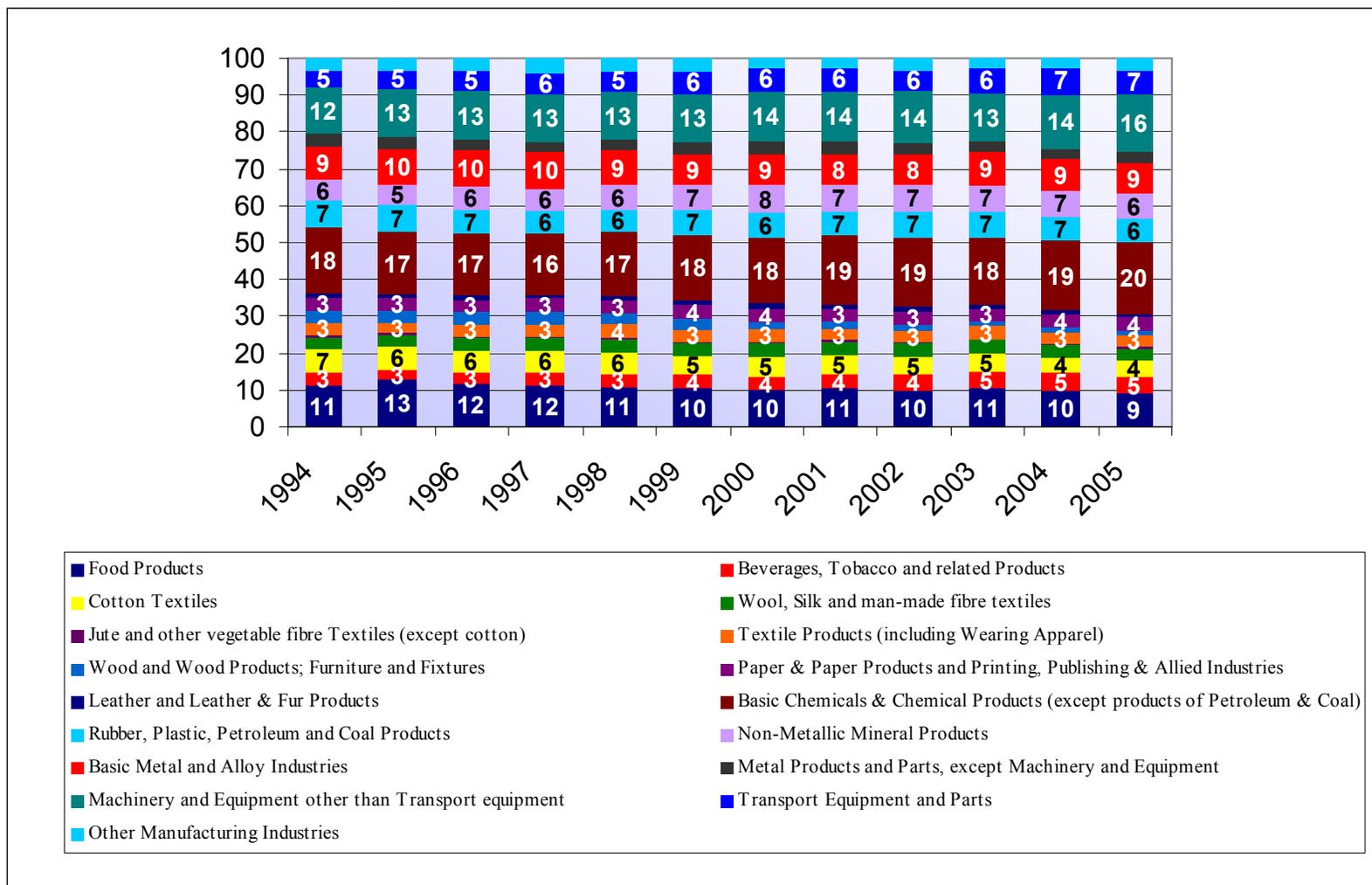


Source: Central Statistical Organization, Government of India

Finally, Figure 2.8 gives the share of different sectors in manufacturing and explores their evolution over the last decade. This indicates that despite the fact that there were considerable changes in economic policy taking place (both internally and with regard to the external trade regime) there was considerable stability in manufacturing structure over the time period. Interestingly also, as will be seen in the discussion in section 3.1, this was a period which saw the structure of Indian exports changing quite significantly. The greater stability of the pattern of manufacturing to that of exports is no doubt due to the large size and degree of diversification of the Indian economy, and to ratio of exports to GDP. This was 5.8% in 1990, and rose to 11.8% in 2005. Hence, the principal sectors of Indian manufacturing in 2005 are still the same as those in the beginning of the nineties. Chemicals form around 18% of manufactures, followed by machinery 15% and food products 9%. Less prominent but still noticeable is basic metal production 8% and mineral industries 6%.

The overall picture that emerges in this part of the report is thus one of an economy undergoing substantial changes in policy since the early 1990s. Those changes in policy have brought about significant increases in growth rates – and some sectoral reallocation principally towards services, and to some extent industry, and consequently with the gradual decline in the share of agriculture. Within industry, however, there is considerable stability in the shares of the principal sectors in GDP.

**Figure 2.8: Indian Manufacturing 1994-2005**



Source: Central Statistical Organization, Government of India

### **3. Assessing the shallow integration implications**

In assessing the likely shallow integration impact of an EU-India FTA the methodology involves focussing on selected diagnostic indicators from which one can draw analytical conclusions which are well grounded in economic theory. The aim of this analysis is to identify: (i) the potential welfare effects by assessing the scope for trade creation and trade diversion; (ii) whether there are any particular sectoral issues which arise in considering trade liberalisation between the EU-India. It is important to note here, that the analysis largely focuses on the welfare implications of trade in goods, though we do also provide a discussion of the developments and role of trade in services.

It is worth recalling that the removal of tariffs on a preferential basis typically leads to both trade creation and trade diversion. There are two possible sources of trade creations. First, this can arise when more efficiently produced imported goods replace less efficient domestically produced goods. Thus, on the production side, trade is “created” and this yields welfare gains. Secondly, even assuming no changes in domestic production a reduction in tariffs, leading to a reduction in prices increases demand for goods, which were already previously imported from the partner country. This too leads to welfare gains as consumers have access to cheaper goods than previously. Here trade is “created” on the consumption side.

Trade diversion occurs when sources of supply switch away from non-FTA partner suppliers to the new FTA partner. If, prior to the FTA, the MFN levying country chose to import from the non-FTA supplier than this would have occurred because that supplier was more efficient (cheaper) than the alternatives. If the formation of the FTA results in a switch to the new partner country than that involves moving the source of supply away from the more efficient supplier and towards a less efficient (FTA partner country) supplier. Hence, trade diversion is considered to involve a welfare loss. Note that the welfare loss is experienced, here, by the importing country, which is switching to the less efficient supplier. There is a potential welfare gain to the FTA partner country as a result of this switch. The gain is only potential as it depends on whether the partner country was initially at full employment equilibrium or not. If the partner country was in full employment equilibrium than the FTA results in an increased demand for some of its goods but this would then involve a reallocation of resources from one sector to another, as opposed to resulting in a net expansion of the employed resources in the economy.

The key point, which emerges from the preceding is that preferential liberalisation will impact on trade flows - trade creation and trade diversion - but that the net welfare effect from that reallocation of trade flows is inherently ambiguous. There are then a number of important rules of thumb, as identified in the Sussex Framework, which can be employed in order to shed light on the likely shallow integration impact of a Free Trade Agreement between the EU and India. These rules of thumb (RTs) are clearly interrelated and are listed below (in no particular order of importance):

1. ***The higher are the initial tariffs / barriers*** the greater are the likely effects eg on both trade creation and trade diversion. With high initial (MFN) tariffs, the greater is the initial distortion. This in turn means that in principle there is greater scope for both trade creation, and also trade diversion as those tariffs are preferentially removed. Hence if the pre-FTA tariffs were very high, then as you remove these it is more likely that the new partner country may be able to supply the good more efficiently than can the domestic economy. The higher the pre-FTA tariffs the more likely it is that this will be the case and consequently the greater the possibility for such trade to be created. The higher the pre FTA tariff the greater the price reduction arising from its removal which in turn increases the demand for the good, and again creates more trade. Each of these process of trade creation are welfare increasing. However, it is also the case that if pre-FTA tariffs were high, than as they are removed there is a greater possibility now of the new FTA partner countries to supply the good (tariff free) cheaper than can the non-FTA partners (on whose exports tariffs are levied). Hence, even though the non-FTA partners may produce the good more efficiently and cheaply, the good will be supplied by the FTA partner who has the preferential access to the market. The higher the pre-FTA tariffs the more likely it is that this form of welfare reducing trade diversion will occur.
2. ***The greater the number of FTA partners*** the more likely it is that there will be trade creation as opposed to trade diversion. The more countries, which are included in the FTA the greater is the likelihood of including the more efficient suppliers. This in turn minimises the extent of trade diversion, and simultaneously maximises the likelihood of trade creation. Another way of thinking about this is to suppose that a given trade agreement were to include the maximum number of possible countries. At the limit this would involve including all countries in the world, and hence by definition the most efficient countries will have been included. By extension therefore the more countries which are included in a given FTA the more likely it is that more efficient suppliers will be included, and hence the more likely it is that there will be trade creation.
3. ***Wide differences in comparative advantage*** between partner countries are likely to lead to a welfare improving FTA. Trade creation occurs when there are differences in efficiency and costs across partner countries – hence the FTA enables the partners to source the goods from the most efficient FTA partner. These trade creation gains thus arise where there are differences in comparative advantage across countries. The greater those differences in comparative advantage (and hence in costs across the countries) the greater is the likely gain from trade creation. If India is only marginally more efficient than the EU in producing a given good, than the gain to the EU from importing the good from India as opposed to producing it itself is relatively small. However, if India is significantly more efficient than the potential gains are that much higher. It is worth noting, however, that if the initial tariffs are high than as detailed in the first rule of thumb, there is also greater likelihood of trade diversion which mitigates against the trade creation gains.

4. ***The more similar is the product mix*** in the economies concerned and the higher the elasticities of supply, the greater would be the possibility of trade creation. Recall that trade creation occurs when the importing country produces less of the good itself and instead now imports the good from its' FTA partner. Suppose that prior to the FTA there was no overlap whatsoever between the two countries production bundles. If that were the case than the only possibilities for trade creation would arise on the demand side. Conversely if there is a significant overlap in the goods produced by the partner countries, than there is much more scope for switching sources of supply to the more efficient country. Note also that assuming a given degree of overlap in the production structures, then the more responsive supply is to the tariff-reduction induced changes in prices the greater the extent of trade creation.
5. ***The higher the percentage of trade with potential partners*** the greater would be the possibility of the FTA to be welfare enhancing. Consider an initial situation where there was very little trade with the potential partner country. This would suggest that in the initial situation third countries were more efficient suppliers. An FTA is therefore more likely to result in trade diversion under these circumstances. Conversely if, in the initial situation, the countries traded significantly with each other than it is more likely that they are each respectively importing from the more efficient supplier, and the chances of trade diversion occurring are lessened.

The first rule of thumb focuses on the initial tariff and/or trade barrier structure. This is an issue, which has already been discussed in the context of delineating the key features of India's trade policy. In summary, there we showed that in many manufacturing sectors while Indian tariffs have declined considerably the average tariff is still quite high at around 15%. Certain sectors are still considerably more protected (Food, Beverages and Tobacco, and Animal and Vegetable Oils), and several other sectors exhibit significant tariff peaks. Conversely, EU tariffs are typically lower, and within that there is a greater incidence of tariff peaks, which in certain cases can also be quite high. All this suggests that the existing levels of distortion are quite high, and that therefore in liberalising its' tariffs on EU exports there is considerable likelihood of there being both trade creation and trade diversion into the Indian economy. The net welfare effect for India therefore is likely to be ambiguous and will depend in good part on a more careful consideration of the other rules of thumb. This we turn to in the next sub-section.

In contrast EU tariffs are already typically low. There would appear to be consequently less scope for significant trade creation and trade diversion for the EU. Though this of course depends on the underlying elasticities of supply, and also on the extent to which small tariffs can have a big impact on differences in competitiveness across countries. Again though, this needs to be considered in the light of the other rules of thumb.

### **3.1. Analysing the Geographical Structure of Indian Trade:**

The relative size of the Indian economy, its' growth and the expansion of imports and exports all suggest that India is potentially a significant market for the EU, as well as being a potentially significant supplier into the EU market. In this section we explore this in some detail by focussing on the geographical composition of India's trade, and of the importance of both imports and exports from and to the EU, as well as with the rest of the world. If we consider the rules of thumb it is clear that it is important to examine these existing patterns of trade in order to shed any meaningful light on the possibilities for trade creation or trade diversion. This involves considering both the numbers of countries, which are involved in the FTA (RT2), but also the extent to which the partner countries trade with each other prior to the free trade agreement (RT5).

If we consider the number of countries involved in the FTA, from the perspective of the EU there is clearly only one partner country – India. In contrast India would be signing an agreement, which involves 27 countries; and in addition, depending on the cumulation arrangements in the FTA, this could also involve decreasing barriers to trade with those countries with which the EU has other agreements such as those in the Southern Mediterranean. It would seem therefore that for those goods for which the EU does not have a comparative advantage signing an FTA with a single country – India – increases the likelihood of trade diversion, which would mitigate against any trade creation welfare gains. In contrast India would be signing an agreement with a larger number of partner countries, and where the initial level of trade is already at a higher level. This indicates greater potential for trade creation. To explore this further we need to look more carefully at the geographical distribution of trade.

#### **3.1.1. Patterns of Indian Imports**

Figures 3.1 – 3.3 provide detailed information on the geographical distribution of India's imports for the period 1990-2004. In the first two figures we present the share of total trade accounted for by the relevant partner countries. Here we have included two separate figures for imports in order to separate the possible role that petroleum imports may play in impacting on the results. Indeed if we compare Figure 3.1 with Figure 3.2 we can see significant changes in the shares of the Middle East and the Rest of the World between 1999 and 2000 arising from changing sources of supply for oil products<sup>8</sup>.

In the discussion therefore we focus on Figure 3.2 as this would appear to more relevant in the context of an EU-India FTA. From the figure we can see that currently the most important trading partner for India is the European Union, which accounts 25% of imports in 2004. It is followed by United States, which constitutes around 6% of Indian

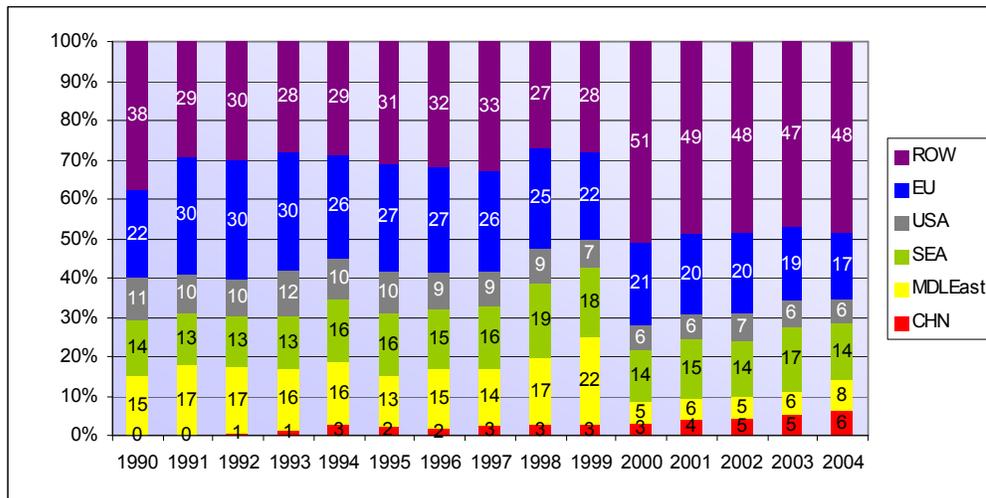
---

<sup>8</sup> For the sake of completeness we also considered the significance of excluding petroleum products from exports. However, perhaps not surprisingly Indian exports are not greatly affected by the removal of petroleum products as they only constitute a small part of Indian exports, and hence the figures are not reported here.

imports. The Middle Eastern countries provide 8% of imports, and South-East Asia 14%. Clearly then the EU is an important supplier which in turn suggests that there is likely to be some considerable scope for trade creation arising from a future FTA. If we recall the discussion earlier concerning trade creation in principle trade creation here is possible either on the production side or on the consumption side. The extent to which the former will hold will depend on the degree of overlap in production and trade structures across the two economies and on the differences in relative costs of production between the EU and India (RT3 and RT4). We discuss this in more detail below.

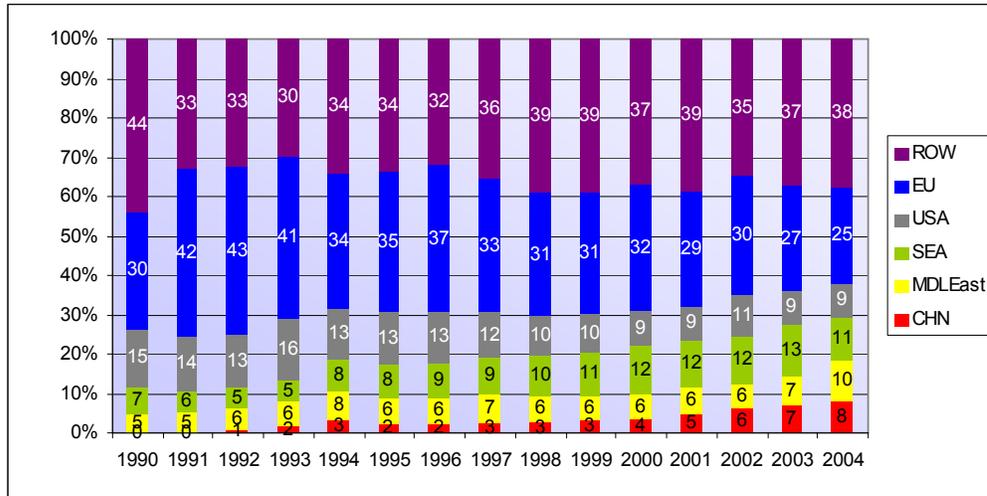
In Figure 3.3 we look at the geographical pattern of trade in a slightly different way. Here we have divided Indian imports into 10 “equal” deciles according to the value of trade for a given base year - which in this case is 1990, and we also no longer treat the EU as a single country but track the changes in deciles where we have disaggregated the EU into its’ respective member states<sup>9</sup>. We then hold the composition of the countries comprising these deciles constant, and track the behaviour of those groups over time. In this case the first decile consists only of the United States; we have the United Kingdom and Japan in the second decile, the third decile is composed of Luxemburg, Belgium and Saudi Arabia; and the fourth decile comprises the Soviet Union, United Arab Emirates and Australia; and finally the fifth decile consists of France, Italy, Iran and Malaysia.

**Figure 3.1: Geographical Distribution of Indian Imports 1990-2004**

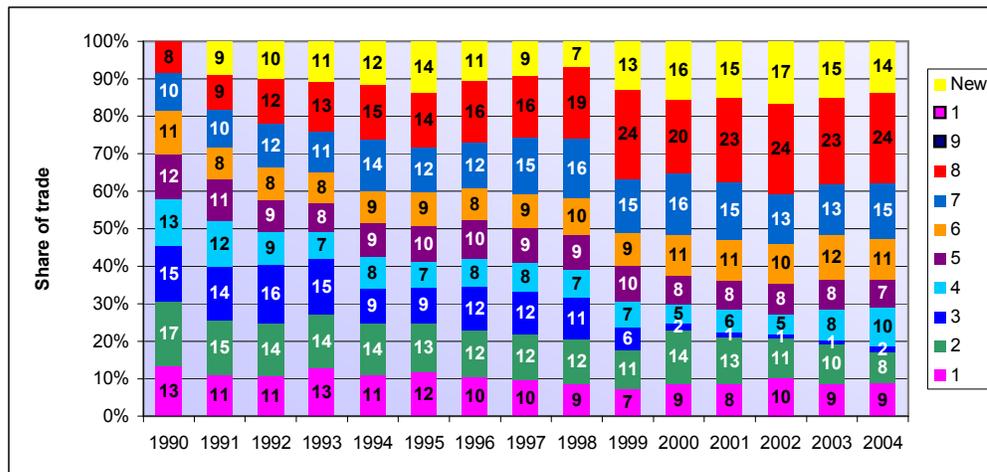


<sup>9</sup> In practice it is often the case in this sort of analysis that one particular country (category) comprises more than 10% of the value of trade. Hence, the number of decile groupings is frequently less than 10.

**Figure 3.2: Geographical Distribution of Indian Imports 1990-2004 (excl. petroleum)**



**Figure 3.3: Indian Import deciles 1990-2004**



Source: Own Calculations, COMTRADE; HS rev.1 classification

From this figure we see that the share of the US in Indian imports declines slightly over the time period (and this can also be seen in Figure 3.1). The share of the second decile (the UK and Japan) declines substantially from 17% of trade to 8% of trade, as does the share of the third decile which declines from around 15% to 2%. If we look at the bottom deciles we see a substantial increasing diversification of trade with an increase accounted for by the 8th decile (comprising 91 countries) from 8% of trade in 1990, to over 24% of trade in 2004 and 11<sup>th</sup> decile (comprising of 74 countries), from nothing in 1990, to over 14% of trade in 2004.

In order to consider the degree of similarity in export and production structures, and also to the differences in relative costs and/or competitiveness between the EU and India we have calculated Finger Kreinin indices of export similarity and also indices of revealed

comparative advantage<sup>10</sup>. The Finger-Kreinin index can be used as a measure of the degree similarity between two countries – be this with regard to production structures or trade flows. In terms of the discussion above, ideally we would like to be able to compute the index on patterns of production as that is the most direct way of addressing the fourth rule of thumb. However, the data is simply not available at an appropriate level of disaggregation. Following common practice therefore we compute the index on the basis of trade flows, and use trade flow similarity as an imperfect proxy for production structure similarity. The FK index is equal to one when the structure of trade (defined by the share of each sector in total trade) across the two countries being compared is identical and is equal to zero when they are completely different. We have calculated the Finger-Kreinin indices for all bilateral pairings between India, the EU, China, the USA and South East Asia, and these are given in Table 3.1. All of the calculations were made at HS 6 digit level of disaggregation.

**Table 3.1: Finger-Kreinin indices for export flows at HS 6 digit 2004**

	India	EU	China	USA	SEA
India	1				
EU	0.24	1			
China	0.25	0.36	1		
USA	0.2	0.6		1	
SEA	0.21		0.42		1

Source: Own Calculations, COMTRADE; HS rev.1 classification

As a point of comparison it is worth first looking at the FK index between the EU and the US. This is 0.6, which suggests a 60% overlap in the structure of exports of the US and the EU. In contrast we see that when we compare the EU and India, the FK index is relatively low at 0.24. This suggests much less similarity in terms of the export structure of the EU and India. In terms of the earlier discussion with regard to trade creation this would appear to suggest that on the production side there is not much evidence of considerable scope for trade creation.

In addition to considering the degree of overlap, it is also important to consider the relative competitiveness of producers across the countries in the FTA. This we do by calculating indices of revealed comparative advantage. An RCA is a way of measuring the competitiveness of a given country in each good compared to another country. In this report we use the Balassa (1965) index of revealed comparative advantage. The RCA measures a country's exports of a commodity relative to its total exports and the compares this to the world exports of a commodity relative to total world exports.<sup>11</sup> A

<sup>10</sup> The mathematical formula for FK index is as follows:  $FK = \sum_i \min([X_{ia} / \sum X_{ia}], [X_{ib} / \sum X_{ib}])$   
Where  $X_{ia} / \sum X_{ia}$  is the share of product i in country's a total exports,  $X_{ib} / \sum X_{ib}$  is the share of product i in country's b total exports.

<sup>11</sup> It is expressed as follows:  $RCA = \frac{(X_{ij} / X_{it})}{(X_{nj} / X_{nt})}$  Where X represents exports, i is an exporting country, j is a commodity, t is a set of commodities and n is a set of countries usually the world.

comparative advantage is “revealed”, if  $RCA > 1$ . This is because the index shows that the country is exporting a higher share of the good than the share of the good in world exports – hence the country has a comparatively higher share for that good which implies a comparative advantage. Analogously if the RCA is less than unity, the country is said to have comparative disadvantage in that commodity. We calculate the RCAs for both India and the EU at the HS 6-digit level - which accounts for approximately 4500 different commodities.

Consider first Table 3.2 and Table 3.3. Here, for India and the EU respectively we report the RCAs for their top 15 exports at the HS 6-digit level. From this we see that India has a significant RCA in all but one of its top exporting sectors which together account for 35.1% of all of India’s exports. Interestingly for the European Union we find that it too has an RCA greater than one in ten of its’ top exporting sectors and that the extent of the EU’s revealed comparative advantage in these sectors is considerably lower than was the case for India. The top 15 exporting sectors for the EU account for 17.8% of its’ total exports. This would suggest that where the EU is trading significantly in world markets it appears to be facing considerably more competition in those products than is the case for India.

We also see from the tables that the EU’s top exporting sectors are much concentrated in particular HS categories. The top 15 tariff headings all fall into 5 HS 2-digit categories. In contrast for India the 15 sectors cover 11 HS 2-digit categories. There are also only 2 HS 2-digit categories which are common to both countries.

**Table 3.2: India – Top 15 export sectors (2004)**

HS code	Description	% share in total exports	RCA
710239	Non-industrial :-- Other	14.20	27.76
271000	Petroleum oils and oils obtained fr	4.30	4.71
711319	Of precious metal whether or not pl	2.10	6.57
30613	Frozen :-- Shrimps and prawns	2.00	17.83
620520	Of cotton	1.70	19.49
100630	Semi-milled or wholly milled rice,	1.50	22.85
620630	Of cotton	1.30	33.91
610910	Of cotton	1.10	6.52
420310	Articles of apparel	1.10	15.69
630492	Other :-- Not knitted or crocheted,	1.00	113.33
300490	Other	1.00	0.94
294200	Other organic compounds.	1.00	86.68
230400	Oil-cake and other solid residues,	1.00	9.56
80132	Cashew nuts :-- Shelled	0.90	94.09
520511	Single yarn, of uncombed fibres :--	0.90	76.46
<b>Total</b>		<b>35.1</b>	

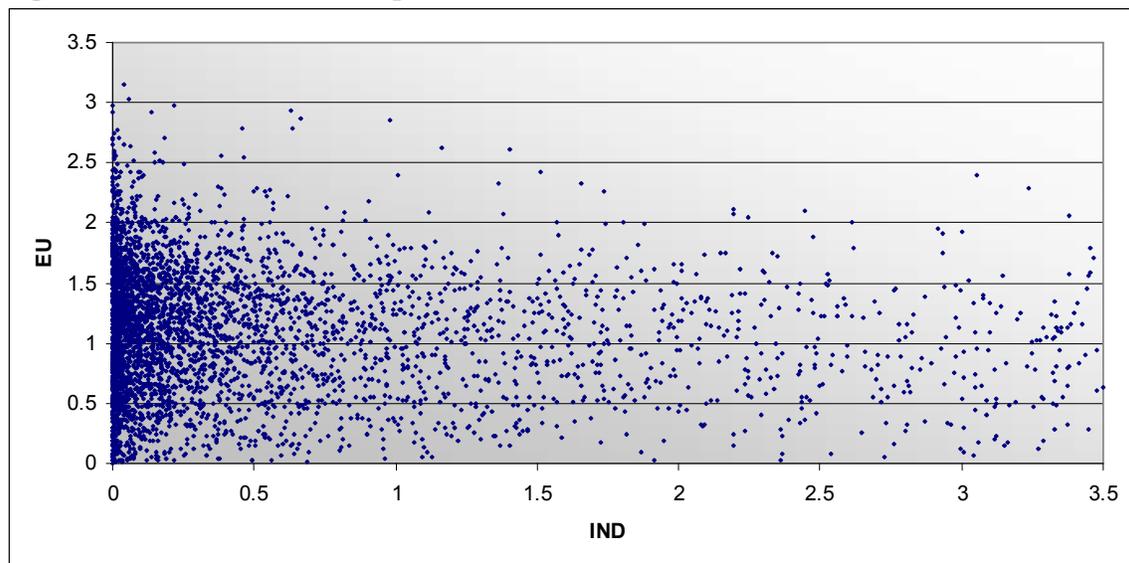
Source: Own Calculations, COMTRADE; HS rev.1 classification

**Table 3.3: European Union RCAs – Top 15 export sectors**

HS code	Description	% share in total exports	RCA
870323	Other vehicles, with spark-ignition	3.1	1.27
870332	Other vehicles, with compression-ig	1.8	2.65
300490	Other	1.8	1.70
847330	Parts and accessories of the machin	1.6	0.64
852520	Transmission apparatus incorporatin	1.5	1.40
854213	Monolithic digital integrated circuits	1.3	0.76
870899	Other parts and accessories	1.2	1.30
870324	Other vehicles, with spark-ignition	0.9	0.68
870322	Other vehicles, with spark-ignition	0.8	1.80
847160	Input or output units, whether or n	0.7	0.81
847170	Storage units	0.7	0.88
851750	Other apparatus, for carrier-curren	0.6	1.32
847150	Digital processing units other than	0.6	1.46
710231	Non-industrial :-- Unworked or simp	0.6	1.51
851790	Parts	0.6	0.93
<b>Total</b>		<b>17.8</b>	

Source: Own Calculations, COMTRADE; HS rev.1 classification

While this only focuses on the top 15 export industries for each of the partners it appears to also indicate that there is little similarity in patterns of comparative advantage between the EU and India. This can be examined more formally by examining the degree of correlation between the RCAs at the 6-digit level of the EU and India. The scatter plot for this can be seen in Figure 3.4.

**Figure 3.4: EU-India scatter plot of RCAs**

Source: Own Calculations, COMTRADE; HS rev.1 classification

The correlation coefficient is  $-0.18$ . From this one can conclude that the pattern of underlying comparative advantage between the EU and India is considerably different.

Recall from the discussion of the rules of thumb that where there are differences in comparative advantage we would expect that there is greater possibility for gains from trade creation. Hence the difference in the revealed comparative advantage indicators suggest the possibility of such gains on the production side. However, this in turn also depends on their being initial overlap in production bundles. The EU can gain from importing cheaper goods from India and producing less of the goods themselves, but this requires that both the EU and India initially produce the goods. However, as discussed above, there does not appear to much overlap in this regard, as captured by the Finger Kreinin indices. Hence, although there are substantial differences in revealed comparative advantage, the low level of production overlap suggests that the possibilities for trade creation are relatively low.

In addition to this, we have shown that the majority of India's imports are sourced from outside the EU, which thus suggests that there is also considerable scope for trade diversion. Clearly it is unrealistic to suppose that the EU is competing here with all the other country suppliers. It is only in a subset of products which the EU has a comparative advantage, and across a range of products and suppliers (eg. oil) there will be little trade diversion. Nevertheless, the US already supplies 9% of India's imports, and many other OECD countries and increasingly China are likely to be competing with EU producers. We also calculated the degree of similarity across India's imports from the EU with India's imports from the World. In this case the FK index was equal to 0.43. This suggest that there is a reasonably large amount of overlap – at a very disaggregated level – between what India imports from the EU and what it imports from the World. This again would appear to suggest scope for trade diversion.

The overall conclusion from this discussion therefore is that with regard to the possible changes in Indian imports from the EU arising from a future FTA, there are clearly some possibilities for trade creation – however these are likely to be on the consumption side (and apply to the 25% of Indian imports, which already are sourced from the EU) as opposed to the production side, but that there is also considerable scope for trade diversion and the net welfare effect for India is therefore clearly ambiguous. To the extent that such trade diversion occurs, from the EU's perspective, this implies an increase in demand for EU goods arising from the expansion of the EU's exports to India. As discussed earlier whether this entails a net positive welfare effect for the EU will depend on whether the expanding sectors are being matched by contracting sectors elsewhere, or whether the expansion is using previously unemployed resources. Of course there is gain for the sectors, which experience a trade-diverting increase in demand. There is another interesting feature which emerges from this table and which serves to emphasise our conclusions with regard to trade diversion. This concerns the declining share of the EU in India's imports. That share declined from 32% in 200 to 25% in 2004. This suggests that under an MFN regime India's pattern of imports was shifting away from the EU towards other countries. The signing of an FTA may well decelerate or reverse this trend – but to the extent that this is trade diversion induced than the above considerations apply.

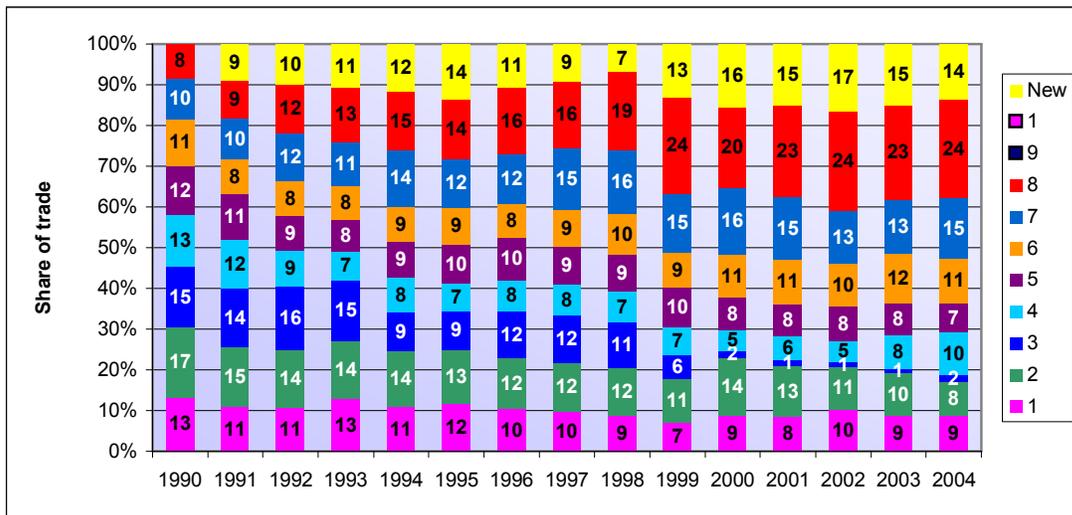
### 3.1.2. Patterns of Indian Exports

In Figure 3.5 and Figure 3.6 we focus on the pattern of India exports. From the former we again see the relative importance of the EU in Indian exports. In 2004 21% of Indian exports went to the EU, 17% to the US, 17% to the Middle East, and 14% to South East Asia. We also see that the share of exports to the EU initially increased to 30% in 1992 but then gradually decreased to 21% by 2004. As with regard to imports this indicates that relatively speaking the EU has over the last decade become a less important trading partner for India. Here it is perhaps worth noting that among the EU countries the United Kingdom, Germany and Belgium are the most important markets for Indian exports, followed by Italy, France and Denmark. Interestingly, China went from a fraction of a percentage point to 7% of the exports and the Middle East countries have increased their share from 7% to 17%. In the trade with US there is no visible tendency it fluctuated yearly from as low as 15% to 23% in the year 1999. Through that period the share of Indian exports to OECD countries fell from 60% to 44%. This changing pattern of exports is no doubt being driven by the increasing integration of India into the world economy following the policy reforms of the early 1990s.

If we look at the decile analysis, we see that the first decile is composed of only one country (the Soviet Union), which accounted for 19% of Indian exports in 1990. The second decile and third deciles also consist of single countries (the US and Japan respectively); the fourth decile is composed of the United Kingdom, Luxemburg and Belgium; and the fifth is France, Italy, Hong Kong and United Arab Emirates. The remaining deciles capture 150 other countries with whom India traded in 1990. There is no data on the graph corresponding to the ninth or tenth decile because the first eight deciles covered all of the trade (this is due to the fact that you cannot split a single country over more than one decile and thus the individual deciles in the 1990 account for more than 10% of exports). The new or eleventh decile that we can see from 1991 onward is composed of the countries that India hasn't traded with in the 1990.

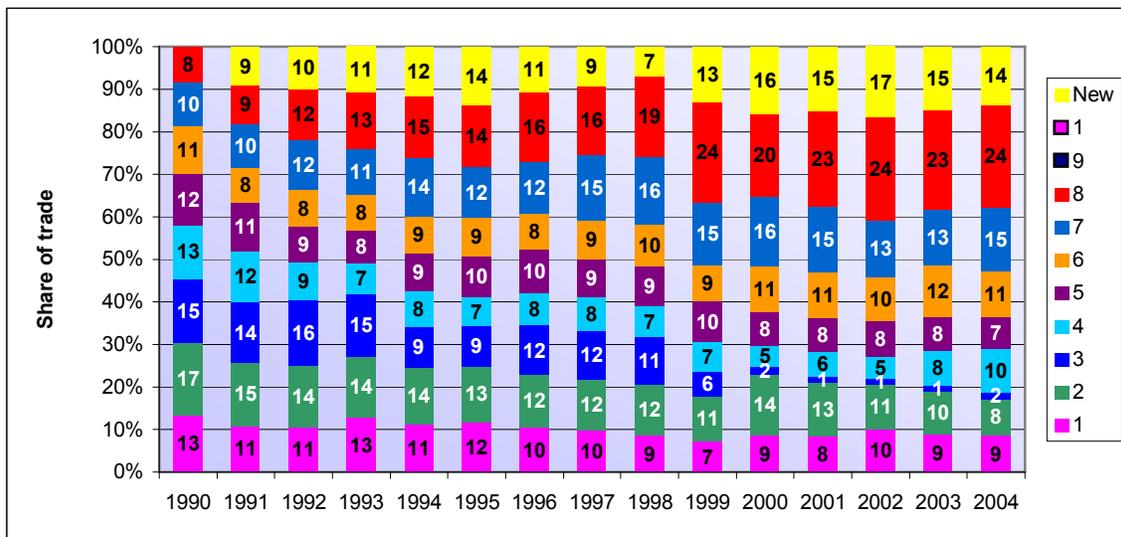
The figure then shows how the geographical structure of Indian exports evolved over time. We see the dramatic decline in the share of trade with the Soviet Union. This is of course due to the fact that it stopped reporting data as a single country. Some of its trade is now being picked up in the 'new' category. We also see clear evidence that the geographical structure of Indian exports got much more diverse over the time. The eleventh decile consists of 55 countries and is capturing 8% of trade in the year 2004. The eighth decile, which comprises over 100 different countries, accounted for only 9% of trade in the year 1990 but in 2004 accounted for 26% of Indian exports. With that increased diversification we see the gradual decline of many of the decile groupings. Hence the share of the third decile declined from 10% of trade to 3% of trade, and that of the fourth from 12% to 4%. However this is not uniformly the case. the share of the US is fairly constant over the time period, and that of the 5th decile sees an increase from 13% to 20%. Finally we see that when we disaggregate the trade between India and Europe, the single European countries are no longer the main players. Only when Europe is counted together we can see its dominating position. This is due to the fact that the EU-India trade is not focused on a small group of countries but is quite diverse.

**Figure 3.5: Geographical Distribution of Indian Exports 1990-2004**



Source: Own Calculations, COMTRADE; HS rev.1 classification

**Figure 3.6: Indian Export deciles 1990-2004**



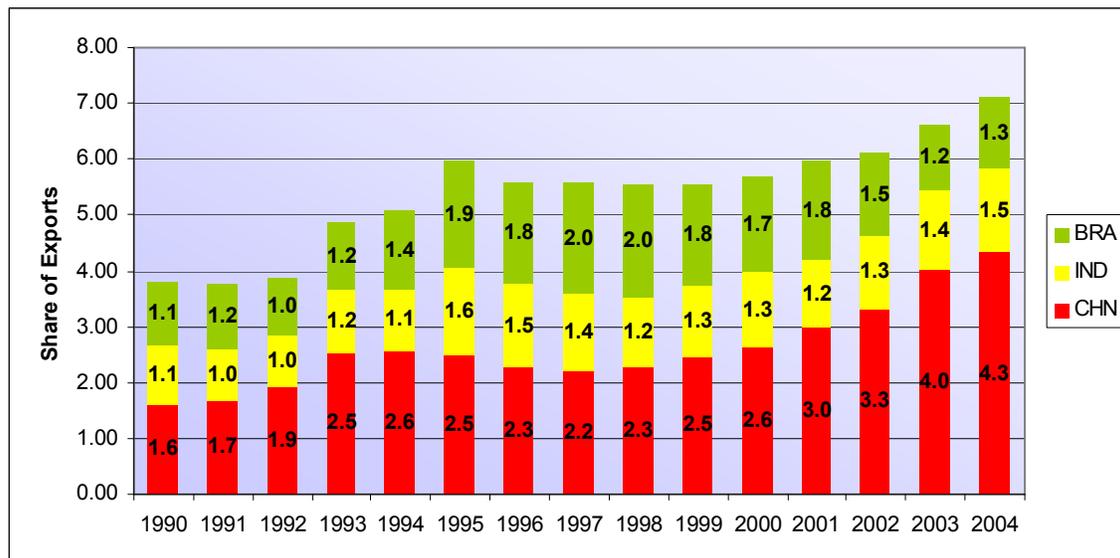
Source: Own Calculations, COMTRADE; HS rev.1 classification

### 3.1.3. EU Imports and Exports

Where the preceding focussed on the role of the EU in Indian trade we now turn to considering the importance of India for EU trade, and for comparative purposes also consider the shares of trade with respect to Brazil and China. If we look at Figure 3.7 we can see that India accounts for around 1.5% of both the exports and imports of goods to and from the European Union in 2004. This share has increased gradually through the last fifteen years starting at around 1% in 1990. However, what is clear from this figure is that from the European perspective the trade with India is rather small in magnitude – though growing. If we link this back to the earlier discussion we can now see that EU tariffs are typically fairly low on Indian exports, and that India accounts for a comparatively small share of EU imports. This suggest that the scope for trade creation – be it with regard to production or consumption – is relatively small, and that, there is clearly scope for trade diversion. For the EU then the shallow integration induced welfare effects are likely to be small, and the sign of the net effect ambiguous.

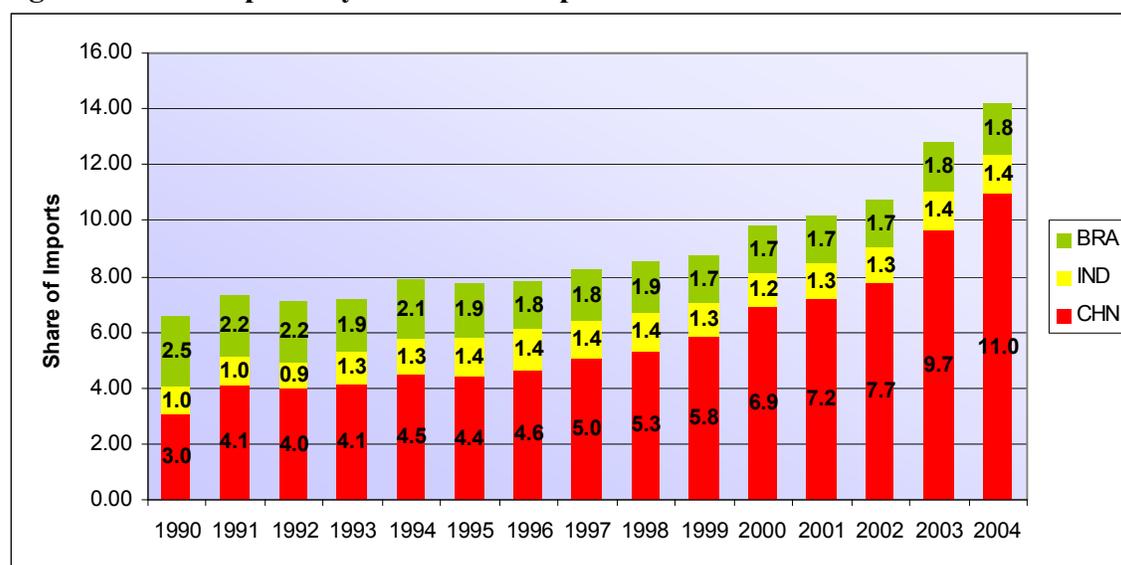
It is also interesting to compare the share of Indian trade to that of China and Brazil. Here we see some important difference. The share of China in EU trade has increased much more dramatically during the last 15 years with regard to both exports, and most particularly with regard to imports. Exports to Brazil as a share of total EU exports have risen slightly over the period and comparably to the Indian experience. In contrast the share of Brazilian imports in total EU imports has declined from 2.5% to 1.8%. It is important to note that looking at shares does not give information with regard to the actual value of trade. Hence the value of trade with each of these countries has increased significantly over the time period.

**Figure 3.7: EU exports by selected trade partners 1990-2004**



Source: Own Calculations, COMTRADE; HS rev.1 classification

**Figure 3.8: EU imports by selected trade partners 1990-2004**



Source: Own Calculations, COMTRADE; HS rev.1 classification

### 3.1.4. Conclusions

The analysis in this part of the report has focussed closely on the geographical pattern of trade. The purpose of this is to identify which are the key trading partners for India, and also to consider the evolution of the geographical composition of India's trade. From the point of view of a future FTA between the EU and India these statistics are interesting and informative in several ways. First, it is clearly the case that the EU is an important destination market for India's exports of goods (21%), and similarly the EU is an important supplier (17%-25%). There is little doubt then that the EU is a key trading partner for India, and that therefore the signing of an FTA with the EU could have a significant impact on the Indian economy. On the import side signing an FTA and eliminating remaining tariff and non-tariff barriers to goods trade is likely to lead to a further increase in trade with the EU. However, as approximately 75-80% of Indian imports come from non-EU suppliers there is clearly considerable possibility for trade diversion arising from such an FTA which would lessen the welfare gains arising from the FTA for India. This is reinforced by the decile analysis, which indicated the increasing diversification of India's imports. We also saw that the scope for trade creation would appear to be fairly limited and largely restricted to the consumption side.

From the EU's perspective while clearly India is an important destination market it currently only accounts for 1.3% of the exports of the EU. Nevertheless the share of the EU in Indian imports is significantly decreasing over time, which might suggest the increasing competitiveness of third country suppliers. Once again, this suggests however, that while an FTA may well serve to increase the share of the EU in the Indian market this is likely to be at the expense of trade diversion. Of course, to some extent this will be mitigated by any trade creation that takes places, and given the share of the EU in India's imports there is clearly some scope for this too. From the perspective of Indian exports to the EU there is a likelihood of some trade diversion, possible some trade creation though

this is unlikely to be significant given the existing low share of Indian exports in EU imports.

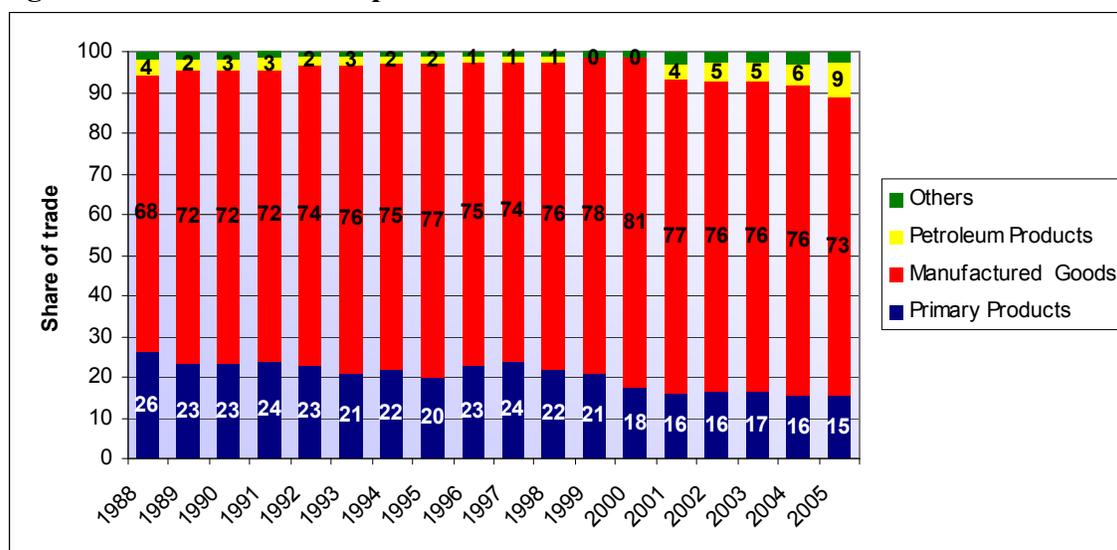
### 3.2. The sectoral composition of goods trade

Where the preceding decomposed India's goods trade geographically, in this part of the report we decompose India's trade by sector. The purpose of this is to identify the principal import and export categories, to see how these have evolved over time, and to focus on the pattern of trade with the EU by sector. First we focus on the pattern of Indian exports - both by the ISIC industrial classification, and by the SITC trade classification, and using the decile analysis, which allows us to consider the stability of trade patterns over time more carefully. Subsequently we consider the pattern of Indian imports.

#### 3.2.1. Exports

Figure 3.9 gives the shares of petroleum products, manufactured goods, primary products, and others over time. From this we can see that India mainly exports manufactures, followed by primary products, which mainly consist of agriculture goods. Over the 1990's there was a slight reorientation towards increasing exports of manufactures, which reached a share of 81% of total exports in 2000, but subsequently declined to a share of 73%, which arose because of the expansion of export of petroleum products which have grown fairly rapidly since 2000, accounting for 9% of exports in 2005. The share of exports of primary products declined from 25% to 15% over the time period.

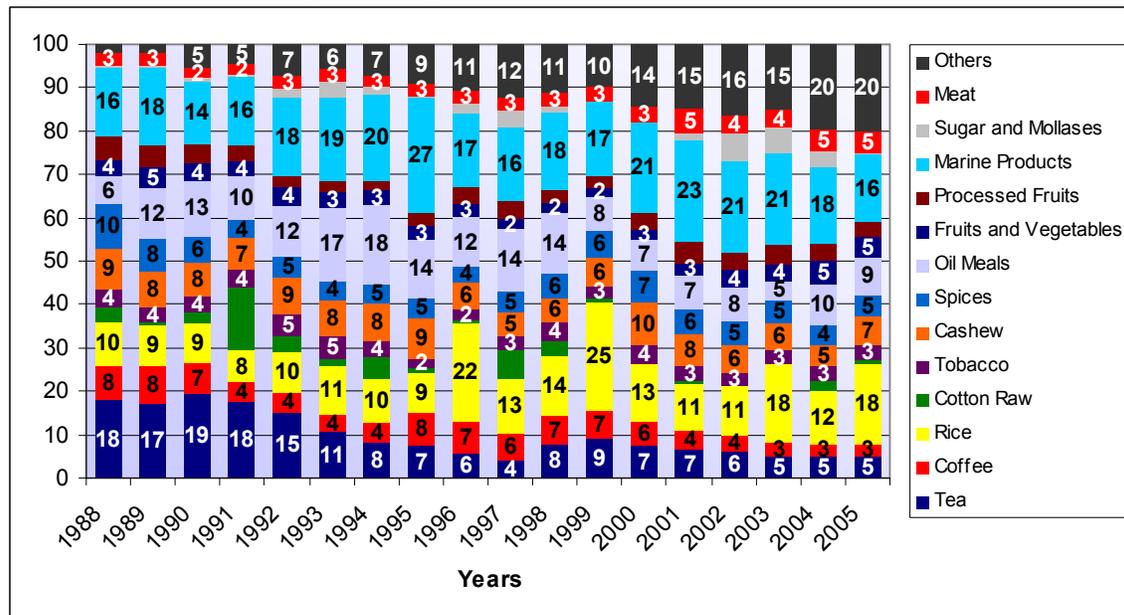
Figure 3.9: Total Indian Exports 1988-2005



Source: Central Statistical Organization, Government of India

In Figure 3.9 we see the declining role of primary products exports. More detail on this can be seen in Figure 3.10. Here we see that exports in agriculture show considerable change over time, with certain sectors where their share of agricultural exports contracts. For example, the traditional production of Tea and Coffee declined during that time by more than half. Conversely, the importance of rice in exports went from 8% to 18%, and the share of Others increased from 2% to 20%.

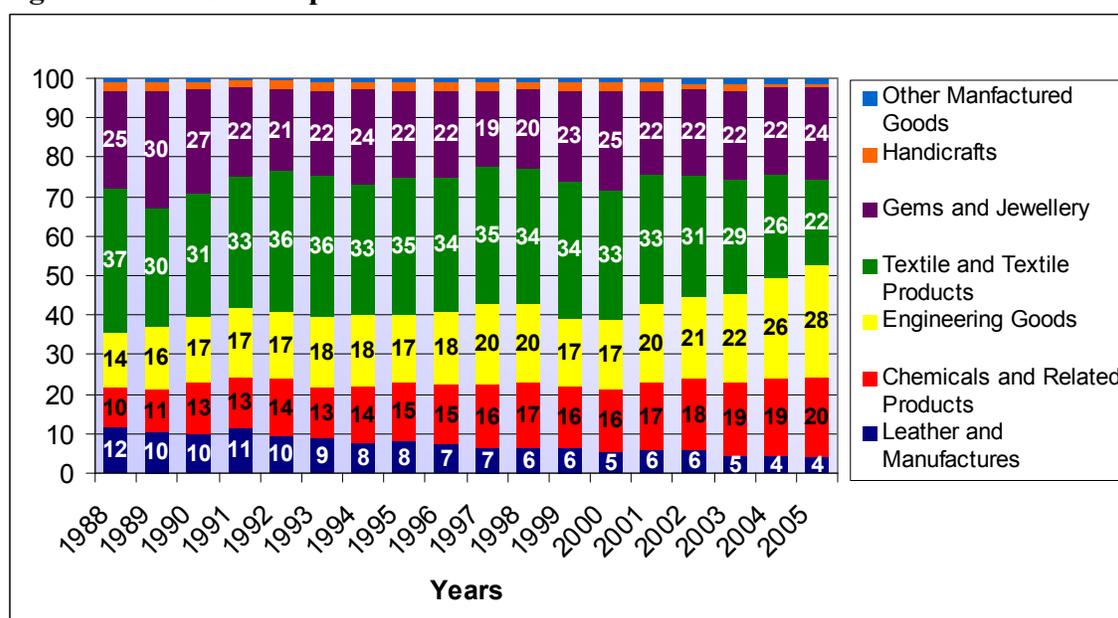
**Figure 3.10: Indian Export of agricultures 1988-2005**



Source: Central Statistical Organization, Government of India

In Figure 3.11 we then disaggregate the exports of manufactures into its component categories. The importance of chemicals and engineering goods rose steadily over the last seventeen years. In 1988 they formed 12% and 14% of exports respectively; in 2005 they accounted for 20% and 27% respectively. At the same time the textile and leather sectors lose roughly half of their respective shares. The leather sector goes down from 11% to 5% and the textile industry from 37% to 17%. The manufacturing of gems and jewellery fluctuates a little, but fairly consistently accounts for between 19%-30% of exports. Earlier in this part of the report we discussed the composition of Indian production over time. There we saw considerable stability in the shares of manufacturing sectors in Indian GDP over time. It is interesting to note that this is not reflected in the trade data. There is considerably more variation in the pattern of exports by sector over time, than in the pattern of production. This reflects the comparatively low share of exports to GDP in India (13% in 2000), though with the steep rise in that share as a result of the increasing openness of the Indian economy over the last five years, we would expect the impact of openness on patterns of production in India to become more pronounced.

**Figure 3.11: Indian Export of Manufactures 1988-2005**



Source: Central Statistical Organization, Government of India

Table 3.4 then breaks down the shares of Indian trade using the International Standard Industrial Classification (ISIC) with respect to both the EU and the world for selected years<sup>12</sup>. The bulk of Indian exports in 2004 comes in main 5 categories which cover 82% of the trade. Those are: chemical, manufacturing of metal both basic and fabricated, textile, leather and wearing apparel and other manufacturing products. Within that it is worth noting that India's exports form a considerable part of world exports for the following goods: Lac, Gum, Resins (HS13) 8%, Ores, slag and ash (HS26) 10.7% of world exports, Silk (HS50) 11.1%, Carpets (HS57) 10.7%, textile articles (HS63) and pearls, precious stones (HS71) 7.4%. Agriculture and food products add up to 9% of exports and aggregated mining and petroleum sector forms 5%.

If we compare the sectoral pattern of India's trade with the world, with its' trade with the EU there are some notable differences. In particular we see that in 2004, whereas Textiles and Leather form just over 17% of India's total exports, they constitute over 31.9% of their exports to the EU. It is worth noting also, first, that this represents a significant decline in comparison to 1990 where Textiles and Leather comprised over 47% of India's exports to the EU; and secondly that the same decline in share does not apply with regard to India's exports to the world where the share of Textiles and Leather has consistently been around 30%. Similarly India's share of fabricated metal products exports to the EU (16.5%) is higher than its' world share (13.26). The distribution of the remaining industries is then fairly similar across the two destination markets.

<sup>12</sup> Normally there are three categories for mining: ore mining, metal ore mining, other mining and petroleum, we have decided to add those categories up in this case because they are very small individually. Most of their share in exports is due to the metal ore mining industry. We will follow this aggregation in all of the tables

**Table 3.4: Indian Exports by ISIC2 - Shares**

Category	1990		1997		2004	
	Total	With EU	Total	With EU	Total	With EU
Agriculture	10.68	5.81	7.35	8.43	3.86	3.80
Forestry	0.78	0.52	0.78	0.89	0.37	0.42
Fishing	3.19	4.24	3.75	1.30	1.67	2.15
Mining and petroleum	4.94	2.27	2.39	1.09	5.41	1.65
Manufacturing of food	5.56	3.67	8.56	3.48	4.96	2.97
Textiles and leather	30.33	47.72	28.88	44.54	17.63	31.93
Wood products	0.07	0.04	0.11	0.14	0.38	0.77
Paper	0.21	0.09	0.37	0.20	0.51	0.45
Chemicals	12.95	7.20	13.57	12.86	22.62	17.15
Manufacture of non-metallic, mineral	0.59	0.46	1.29	0.92	1.28	1.27
Basic metal industries	2.39	2.31	4.81	3.22	8.62	8.49
Fabricated metal products	10.39	5.74	10.94	9.88	13.26	16.47
Manufacturing nes.	17.92	19.93	17.21	13.05	19.41	12.48

Source: Own Calculations, COMTRADE;

Below in the Table 3.5 we see the breakdown of Indian Exports to the EU by the Broad Economic Categories (BEC) classification. India mainly exports finished consumer products and processed industrial supplies.

**Table 3.5: Indian Exports to EU by BEC**

Category	1992	1997	2004
Food and beverages - Primary	0.08	0.08	0.05
Food and beverages - Processed	0.02	0.02	0.02
Industrial supplies - Primary	0.04	0.03	0.03
Industrial supplies - Processed	0.34	0.39	0.36
Fuel	0.00	0.00	0.05
Capital goods	0.01	0.02	0.03
Parts	0.01	0.03	0.04
Transport Equipment	0.03	0.03	0.05
Consumer goods	0.47	0.39	0.36

Source: Own Calculations, COMTRADE; BEC classification

We now turn to a decile analysis which enables us look at the changes in structure of Indian trade for the last 15 years by focussing on trade at an extremely detailed level of disaggregation. Hence, here we are looking at the trade flows at the 6-digit level disaggregation which for India gives about 3700 unique products in the year 1990. The number of unique products traded increased through that period and in the year 2004 the India trades around 4700 products. They are then divided according to their trade shares into 10 equal categories and tracked over time. Table 3.6 below indicates the number of products in each decile in 1990.

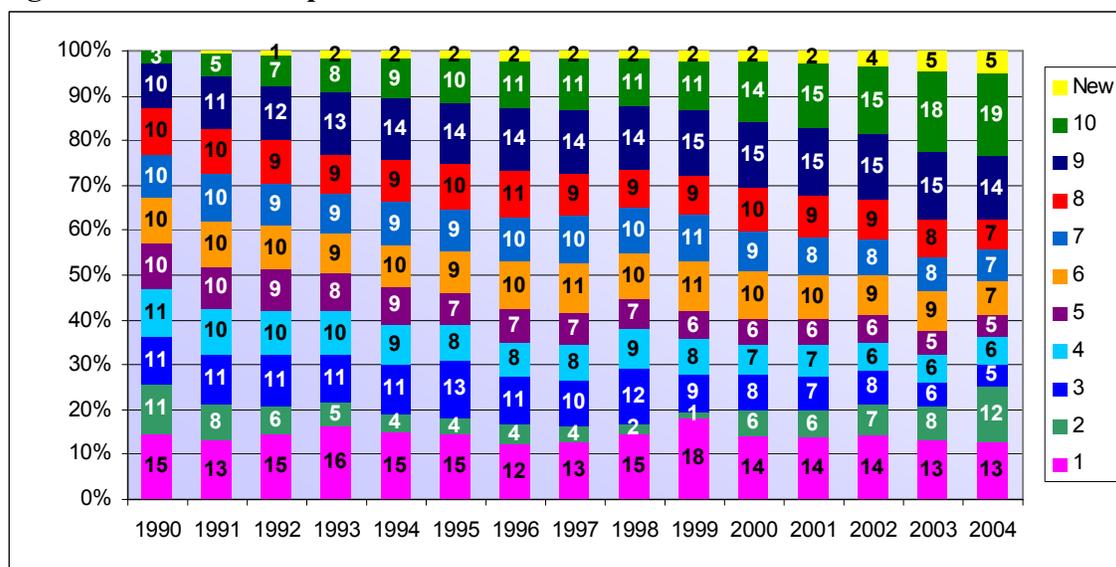
**Table 3.6: Indian Exports - Decile analysis - Number of products**

Decile	Products	Most important products
1	1	<i>Diamonds (710239)</i>
2	4	<i>Iron ores(260111) Petroleum oils(271000) Cotton(520100),</i>
3	6	<i>Tea(090240)</i>
4	9	<i>Mainly textiles (620630 blouses), rice and shrimp(030613)</i>
5	17	
6	35	
7	67	
8	163	
9	666	
10	2701	
New	1103	<i>This number correspond to year 2004</i>

Source: Own Calculations

As can be see Indian exports were highly concentrated in the 1990. The first three deciles cover 35% of the trade and consist of only 11 HS 6 digit products. The first five deciles covering over half of the total exports consist only of 37 individual products. Figure 3.12 then takes the products, which comprised each of the deciles in 1990, and examines the how the share of trade accounted for by these products evolves over time.

**Figure 3.12: Indian Export deciles 1990-2004**



Source: Own Calculations, COMTRADE; HS rev.1 classification

We see that through the 1990s the first two deciles managed to maintain their share of exports at around 26% of all trade. This is interesting, given that they consist of only 5 different products but this in turn reflects the continued importance of these products for Indian exports. The shares of all of the middle deciles (from the third to the eighth)

declined over the time period from 62% to 37%. The tenth decile which comprises just over 2700 products saw its share of Indian exports expand significantly from 3% of trade in 1990 to 19% in 2005. The trade in new products also expanded and accounts now for 5% of Indian exports. Both of these changes reflect the growing diversity of Indian exports.

It is then interesting to compare the preceding to India's exports to the EU. Table 3.7 again lists the number of products in each decile, and for the first three deciles lists the main products. Three features emerge from comparing this table to Table 3.6. First there is considerable overlap in the principle products exported in 1990 between the EU and the World, and secondly, that there is a significantly smaller total number of products which are exported to the EU (2185), in comparison to that exported to the World (3699). Thirdly Indian exports to the EU were slightly more concentrated than total exports, with over half of the exports accounted for by 32 industries.

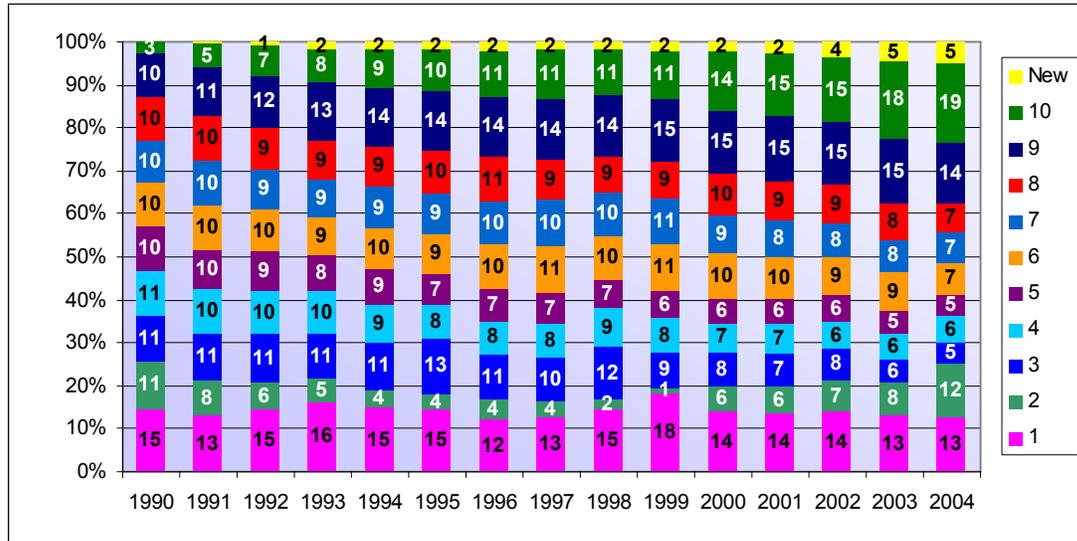
**Table 3.7: Indian Exports - Decile analysis - Number of products**

Decile	Products	Most important products
1	1	<i>Diamonds(710239)</i>
2	4	<i>Cotton(520811) and wearing apparel (mainly shirts)</i>
3	5	<i>Shirts, blouses(620630) Tea(090240), Bovine and Shrimp(030613)</i>
4	8	
5	14	
6	22	
7	48	
8	108	
9	666	
10	1309	
New	1883	<i>This number correspond to year 2004</i>

Source: Own Calculations

Figure 3.13 depicts the changing shares of the deciles over the time period. As before, we can see the rising diversity of exports. Both deciles ninth and tenth show an increase from around 11% of trade to 32%. The trade in new product also increases and forms 16% of trade in 2004. This is accompanied by rise in number of products being traded, in the 1990 the India exported only 2185 different products, but in the 2004 it exports 3956 different goods. Previously the exports of the first and second deciles to the world saw their share being maintained. However, here the shares of these products going to the EU declined from 27% to 12%. We also see a big decline in the shares of trade accounted for by the third to fifth deciles with their combined share declining from 32% to 13%. Overall then the figures suggest that trade with the EU has seen a different pattern of changes in comparison to India's trade with the rest of the world, though in both cases there is the clear emergence of growth sectors which contributed little to exports in 1990, and considerably more in 2004.

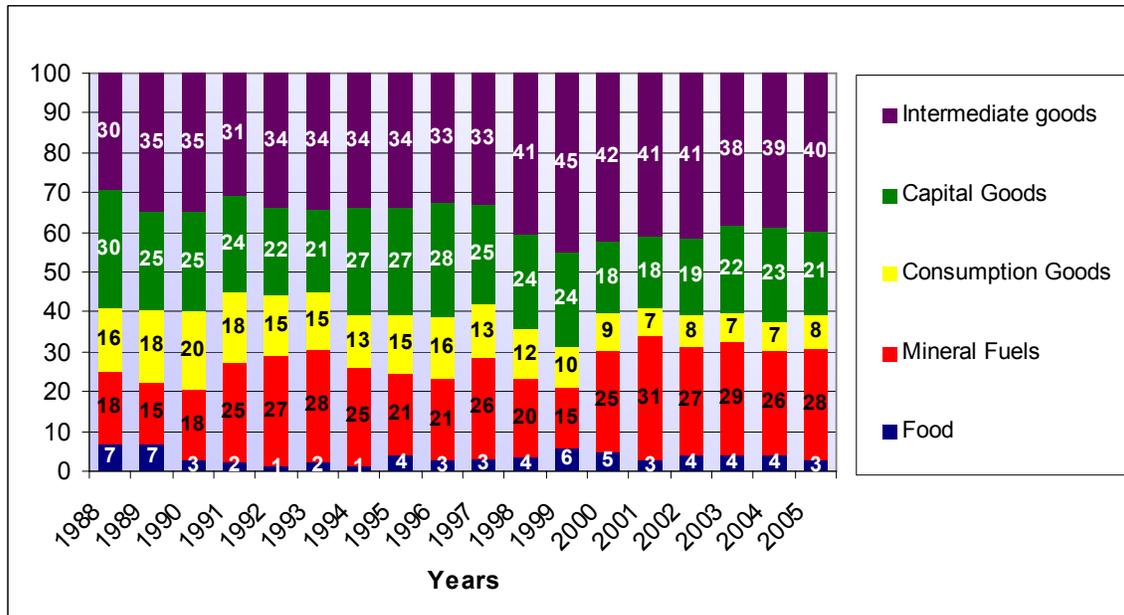
**Figure 3.13: Indian Export deciles to EU**



Source: Own Calculations, COMTRADE; HS rev.1 classification

Figure 3.14 gives the shares of intermediate goods, capital products, consumption goods, mineral fuels and others over time. From this we can see that India chiefly imports intermediate goods, followed by mineral fuels and capital goods. Over the 1990's there was a large increase of imports of intermediates which reached a share of 40% in the 2005 and mineral fuels which also rose by 10% from 18% to 28% in year 2005. The share of imports of consumption goods and food declined the former from 16% to 8%, while the later from 7% to 3% over the time period.

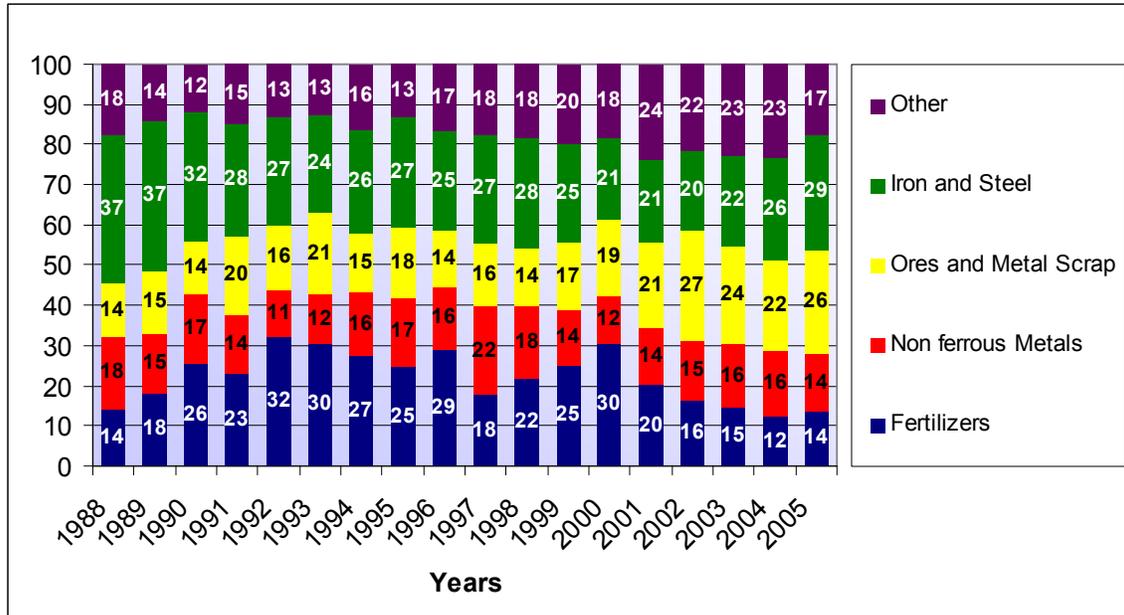
**Figure 3.14: Total Indian Imports 1988-2005**



Source: Central Statistical Organization, Government of India

In Figure 3.15 we see the increasing role of metal ores and scrap in consumption goods. Overall the pattern in 2005 is quite similar to the one from year 1988, but through that period different sectors fluctuated significantly. The import of fertilizers changed from 14% in 1988 to 32% in 1992 and again 14% in 2005. With the sole exception of metal ores which rose from 14% to 26% in 2005, all of the sectors forming consumption goods contracted through the 1990's.

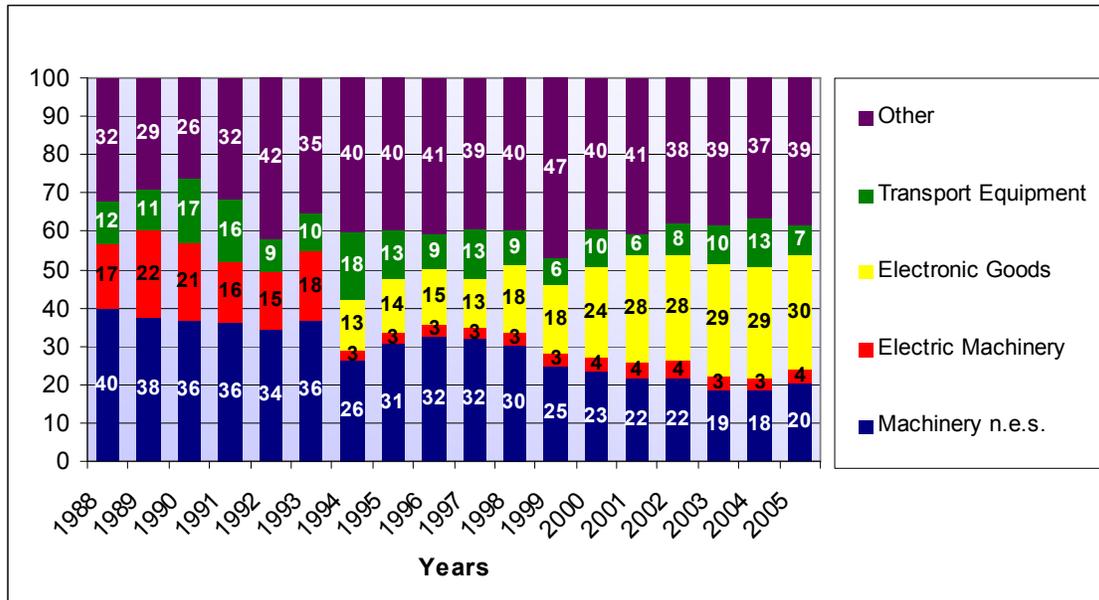
**Figure 3.15: Indian Imports of Consumption Goods 1988-2005**



Source: Central Statistical Organization, Government of India

In the Figure 3.16 we see the breakdown of imports of capital goods into machinery, electric machinery, electronic goods, transport equipment and other. The most prominent change that occurred through that period is the increase in imports of electronic goods from nothing to 30% and a decrease of imports of machinery and electric machinery from combined 57% to 24% of trade in 2005.

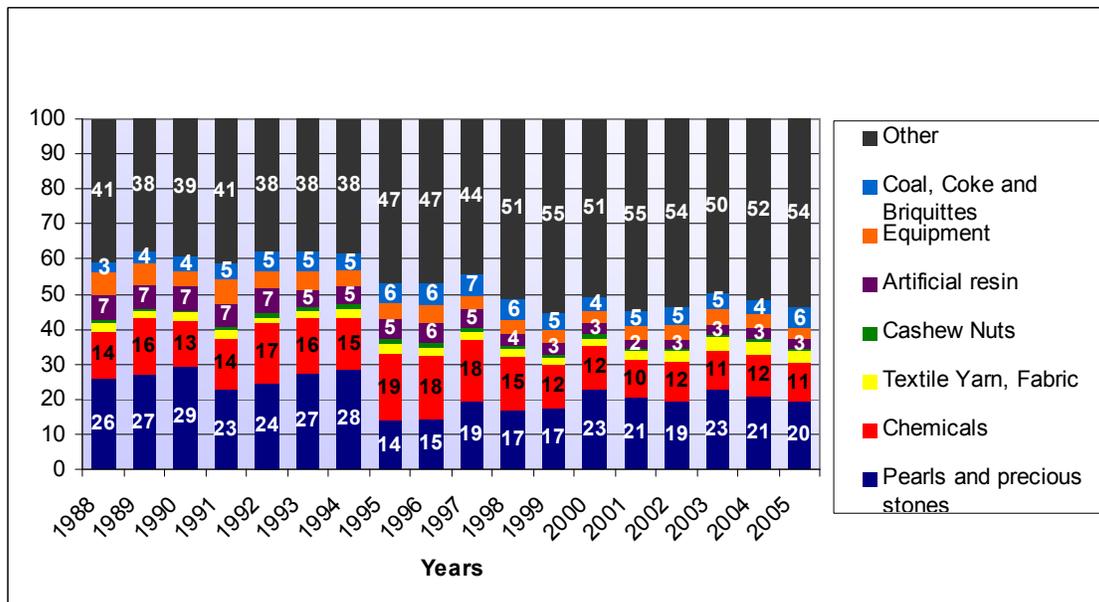
**Figure 3.16: Indian Imports of Capital Goods 1988-2005**



Source: Central Statistical Organization, Government of India

Figure 3.17 shows the imports of intermediates. This indicates that imports become increasingly varied through the 1990's, even in 1988 the other category accounted for 41% of imports by the year 2005 it rose to 54% of trade. Similar to the total imports in the imports of intermediates the share of fuels represented by coal, coke and briquettes rose from 3% to 7%. At the same time the share of imports of precious stones and pearls declined from 3% to 20%. Also the imports of chemicals declined slightly from 14% to 11%.

**Figure 3.17: Indian Imports of Intermediates 1988-2005**



Source: Central Statistical Organization, Government of India

Analogously to Table 3.4 earlier, Table 3.8 gives the share of imports of the principal ISIC categories and compares these to imports from the EU. We see that the principal import product from the world is petroleum, natural gas and their products, which constitutes 33% of all imports in 2004. This is then followed by fabricated metal products (25.37%) and basic metal industries (15.96%), and Chemicals (15.32%). Those four sectors account for 89% of Indian imports. Total imports from the EU are significantly different and this is almost entirely driven by the role of petroleum products in total imports. If we exclude petroleum products we see that again the principal import sectors from the EU are Fabricated Metal Products, Chemicals, and Basic Metals Industries.

**Table 3.8: Indian Imports by ISIC2 (w.o. petroleum)**

Category	1990		1997		2004	
	Total	With EU	Total	With EU	Total	With EU
Agriculture	3.72	0.12	3.71	0.25	2.79	0.32
Forestry	1.34	0.09	1.16	0.12	1.27	0.07
Fishing	0.05	0.05	0.07	0.01	0.03	0.01
Mining	16.00	41.06	4.41	0.67	5.25	0.01
Manufacturing of food	1.89	0.28	3.47	0.71	4.73	0.61
Textiles and leather	1.83	1.58	1.87	1.50	2.56	1.48
Wood products	0.10	0.06	0.14	0.18	0.22	0.21
Paper	3.17	2.93	2.74	3.39	2.27	2.41
Chemicals	33.10	16.03	30.23	15.18	21.67	12.50
Manufacture of non-metallic, mineral	0.63	0.88	0.47	0.90	0.74	1.00
Basic metal industries	10.50	7.74	16.67	11.96	22.57	7.02
Fabricated metal products	26.96	28.81	24.43	33.56	35.89	39.73
Manufacturing nes.	0.71	0.37	10.64	31.57	0.00	34.30

Source: Own Calculations, COMTRADE;

The overall similarity in imports across these categories, again provides a prima facie case for suggesting there may be trade diversion arising from an FTA between the EU and India. In order to focus on this more carefully, we compared India's imports from the world with India's imports from the EU using the Finger-Kreinin index. This index was computed at the 6-digit level of disaggregation and is a summary indicator which gives the degree of similarity between any pair of bilateral trade flows. The index ranges from zero to 1. In comparing India's imports from the EU with the imports from the world an index, which is equal to 1 would indicate that the structure of trade across the two sources is identical. Conversely, an index equal to zero would mean that the structure of trade is completely different. In this case the index is quite high at 0.42 including petroleum products, and 0.53 excluding petroleum. This reinforces the conclusion suggested earlier pointing to the possibility of trade diversion arising from an EU-India FTA.

From the preceding table it would appear that India is mainly importing capital goods from Europe, which includes large quantities of machinery and transport equipment. The Indian imports of metal products were increasing steadily through the last fifteen years from 28% to 40% (see appendix for full tables). If we breakdown the Indian imports from EU using BEC classification we can see that Indian imports from the EU are very much concentrated in Industrial Supplies, Capital Goods, Parts and to a lesser extent Transport Equipment. Of these there has been a decline over time in the share of Industrial Supplies, with a corresponding increase in the share of Capital Goods and Transport Equipment. Consumer goods only constitute 5% of Indian imports in 2004. Recall also Table 3.5, where we saw that the main export categories for India are consumer products and processed industrial supplies. We can conclude that the EU-India trade appears complementary, with the EU exporting industrial supplies and receiving final goods. There would also appear to be potential for significant intra industry trade in industrial supplies.

**Table 3.9: Indian Imports from EU by BEC**

Category	1992	1997	2004
Food and beverages - Primary	0.00	0.00	0.00
Food and beverages - Processed	0.01	0.00	0.00
Industrial supplies - Primary	0.44	0.33	0.33
Industrial supplies - Processed	0.27	0.30	0.24
Fuel	0.00	0.01	0.00
Capital goods	0.10	0.16	0.18
Parts	0.13	0.11	0.12
Transport Equipment	0.02	0.04	0.07
Consumer goods	0.02	0.03	0.05

Source: Own Calculations, COMTRADE; BEC classification

We now turn to the analysis of imports using the decile analysis. As before this enables us to consider at an extremely detailed level the composition of imports and its' change over time. On the import side we decided to exclude the petroleum and diamonds from the analysis. They are both very valuable sectors and thus capture large share of trade. Diamonds are problematic because flows of roughly constant value are registered under different HS6 headings depending on the year, which makes the analysis much harder to interpret.

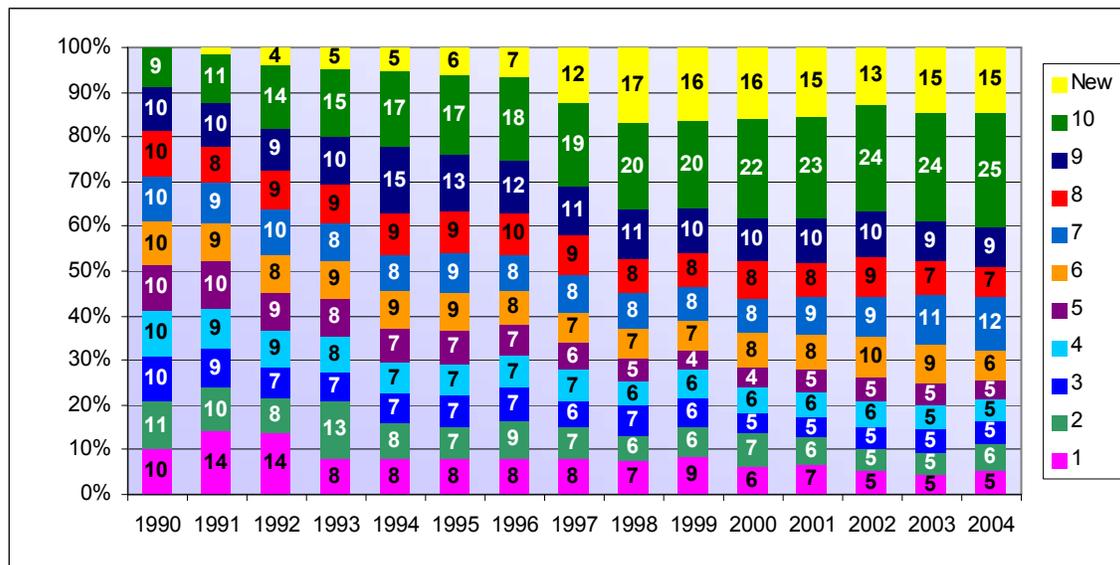
**Table 3.10: Indian Imports - Decile analysis - Number of products**

Decile	Products	Most important products
1	4	Metal waste(720449), Coal, Phosphorus acid
2	10	Mainly Chemicals and transport equipment
3	15	
4	22	
5	34	
6	55	
7	94	
8	170	
9	367	
10	2368	
New	1283	<i>This number correspond to year 2004</i>

Source: Own Calculations

In the 1990 the degree of concentration is a bit smaller then in the exports. The first three deciles are made up of 29 different products. If we would leave petroleum and diamonds in the first three deciles would consist of 4 different products.

**Figure 3.18: Indian Import Deciles 1990-2004**



Source: Own Calculations, COMTRADE; HS rev.1 classification

The first two deciles lost half of their respective share of trade through that period. The last decile has expanded from 9% of trade to 25%. The new products started to appear through that period and their share is equal to 15% in 2004. The imports of new products are much more important on the import side then they were on the export side. The shares of deciles from third to ninth, with the exception of seventh, had all declined. We can conclude that imports became even more diversified then exports.

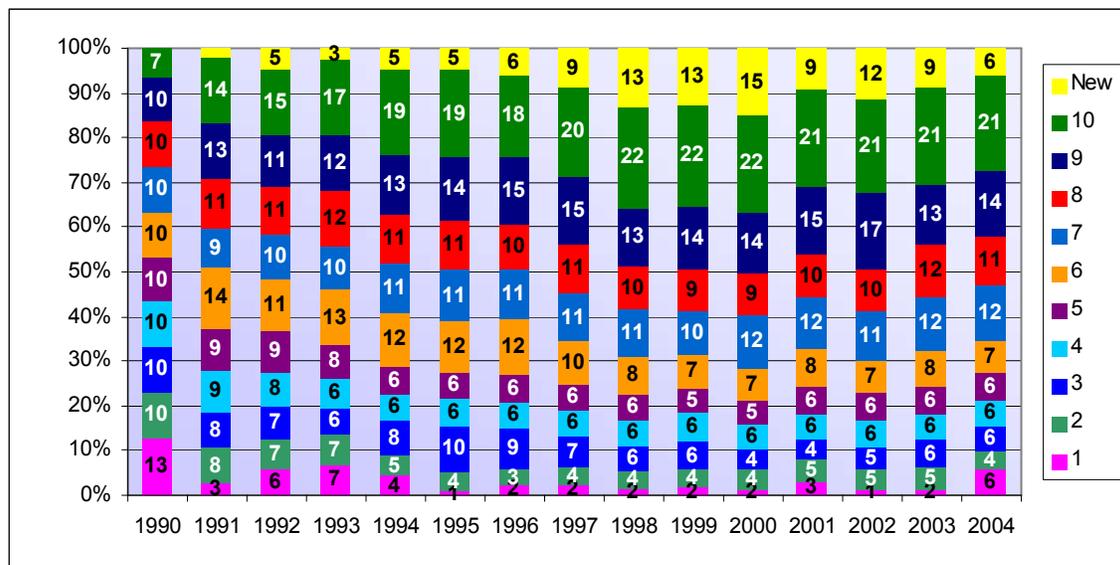
The evolution of imports from the EU to India is a bit more dynamic, but the picture is obstructed by the strange role of raw diamonds, which in the 1990 and 1991 formed a major part (40%) of imports from EU. In 1992 a large shift occurred in the classification under which diamonds appear changed and they were ending up in new products. That is why we decided to exclude them from the analysis.

**Table 3.11: Indian Imports from the EU - Decile analysis - Number of products**

Decile	Products	Most important products
1	3	Aircraft parts, Metal waste(720449), 6-Hexanelactam
2	10	Pharmaceuticals, Machines and Metal products
3	17	
4	26	
5	39	
6	58	
7	97	
8	166	
9	376	
10	1845	
New	1427	<i>This number correspond to year 2004</i>

Source: Own Calculations

**Figure 3.19: Indian Import Deciles from EU 1990-2004**



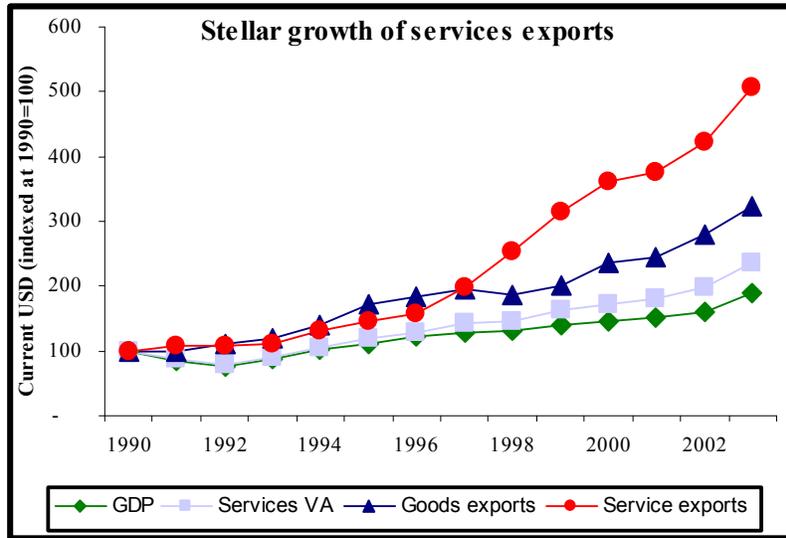
Source: Own Calculations, COMTRADE; HS rev.1 classification

The story behind this graph is very similar. What we see is basically a rising degree of diversity. The key import industries were contracting through that period. But the last three deciles had expanded significantly. The role of new products is smaller in the Indian imports from EU from what we seen either in total imports or in exports.

### 3.3. Trade in Services

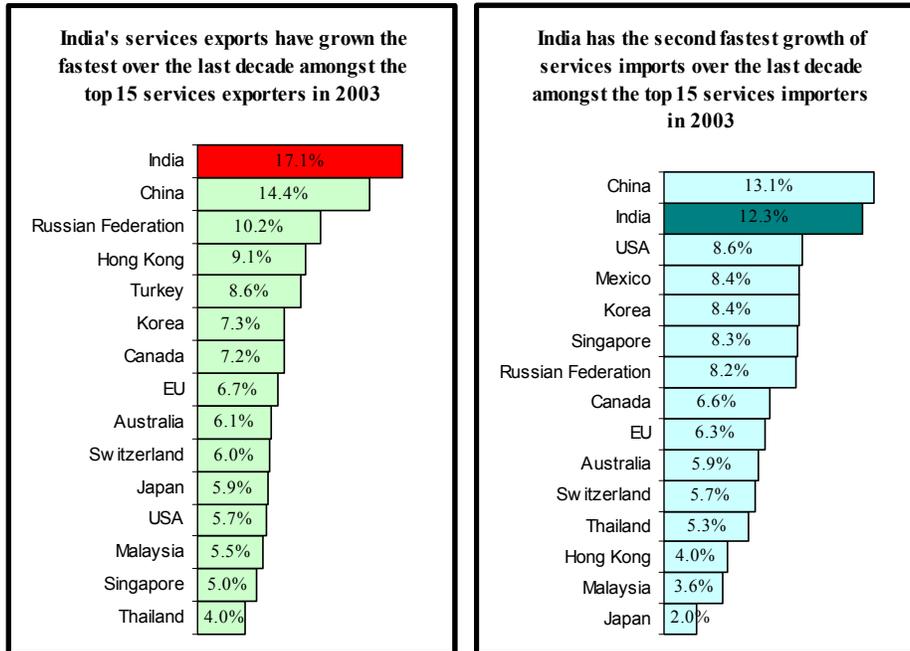
As seen earlier in section 2.3.3, the importance of services in Indian GDP has been growing over time, and particularly from the early 1990s onwards. This is also true with regard to the importance of trade in services for India which is also rising. In Figure 3.20 we see that the growth of services exports has exceeded the growth of services value added which in turn has been more than the growth of GDP.

**Figure 3.20: Growth of service exports for India**



Source: World Bank, WDI 2006; own calculations

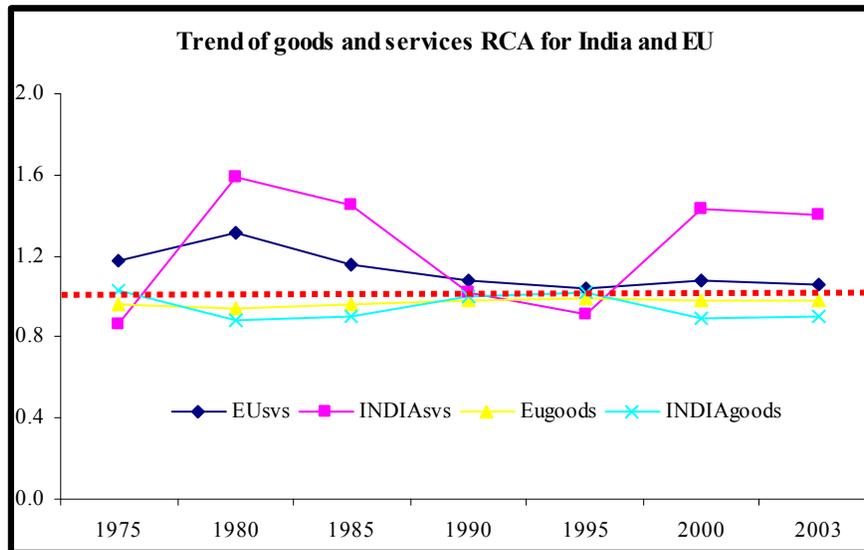
**Figure 3.21: Top 15 service exporters and importers in 2003**



Source: World Bank, WDI 2006; own calculations

Figure 3.22 provides a comparison of the relative competitiveness of services in comparison to goods over time for both the EU and India by focussing on the index of revealed comparative advantage for these sectors. The RCA index for a given sector is calculated by taking the share of a particular sector's exports in that country's total exports of goods and services, and dividing this by the ratio of global exports in this sector to the total global exports of goods and services. An RCA index with value greater than unity indicates a comparative advantage in the sector, while a value less than unity indicates a comparative disadvantage.

**Figure 3.22: Trend of goods and services RCA for India and EU**



Source: World Bank, WDI 2006; own calculations

India's service exports have changed dramatically over the last decade, both in terms of value which has gone up by 165% from USD 9.4 bn to USD 24.9 bn and in terms of structure. Let us begin by looking at the export side. The most significant change in structure occurred to the share of software services – up from 19% in 1997/8 to almost half of all services exports in 2003/4. The other major changes have been in travel and other<sup>13</sup> services that have come down from 30 and 12% shares in 1997/8 to almost half of those in 2003/4. On the whole, five sub-sectors comprise the majority of services exports in India – software, travel, transportation, management and other services. These made up 86% of all services exports in 1997/8, going up to 90% in 2003/4. As far as India is concerned, software, thus, is the most important sector in terms of bilateral trade negotiations with the EU. But on the other hand, this sector is also less prone to the existing regulations or standards, because it is already much liberalized and trans-boundary in nature.

<sup>13</sup> These comprise advertising, rentals, office maintenance, prizes, exhibitions and other services not included elsewhere.

**Figure 3.23: Composition of India's Service exports 1998, 2004**

Category (figures in US \$ million)	1997-98	2003-4	Growth rate	Percentage shares	
Travel	2914	4122	41.5%	31%	17%
Transportation	1836	3260	77.6%	19%	13%
Insurance	240	420	75.0%	3%	2%
GNIE	276	282	2.2%	3%	1%
Communication	171	1047	512.3%	2%	4%
Construction	101	465	360.4%	1%	2%
Financial	296	315	6.4%	3%	1%
Software	1760	12200	593.2%	19%	49%
News agency	156	59	-62.2%	2%	0%
Royalties, copyrights & license fees	21	24	14.3%	0%	0%
Management	549	1354	146.6%	6%	5%
Other services	1109	1401	26.3%	12%	6%
<b>Total</b>	<b>9429</b>	<b>24949</b>	<b>164.6%</b>	<b>100%</b>	<b>100%</b>

Source: Reserve Bank of India Bulletin 2006

On the import side India's services profile has also changed considerably overtime and shown a 126% rise in absolute value over 1997/8-2003/4.

**Figure 3.24: Composition of India's Service imports 1998, 2004**

Category (figures in US \$ million)	1997-98	2003-04	Growth rate	Percentage shares	
Travel	1437	3511	144.3%	18%	19%
Transportation	2522	2331	-7.6%	31%	13%
Insurance	183	363	98.4%	2%	2%
GNIE	160	212	32.5%	2%	1%
Communication	87	572	557.5%	1%	3%
Construction	65	655	907.7%	1%	4%
Financial	647	500	-22.7%	8%	3%
Software	223	450	101.8%	3%	2%
News agency	142	185	30.3%	2%	1%
Royalties, copyrights & license fees	166	444	167.5%	2%	2%
Management	841	814	-3.2%	10%	4%
Other services	1637	8321	408.3%	20%	45%
<b>Total</b>	<b>8110</b>	<b>18358</b>	<b>126.4%</b>	<b>100%</b>	<b>100%</b>

Source: Reserve Bank of India Bulletin 2006

The major changes have been the sharp fall in the share of transportation services in total services imports (down from 31% to 13%), the decline in the import of management and financial services (from 10% to 4%, and from 8% to 3%, respectively) and the huge rise in the share of other services (up from a-fifth to almost one-half of all services imports). To the extent that the last also comprises other unclassified services, this may be more of a statistical “jump” than anything more significant. Across time, the remaining sectors have accounted roughly for a-fifth of all services imports.

If we look at the EU imports of services we do not see as big changes as for India. In terms of value, import of services has increased 58% from 499 bn ECU to 787 bn ECU. Despite this rise the structure remained very stable.

Travel, transportation and other business services accounted for 79% of all services imports in 1998, and 76% in 2004. Once again, the relative importance of these three sub-sectors is also almost identical. The other sub-sectors make up for the remaining quarter of all services imports, a story which is very identical to that of services exports for the EU.

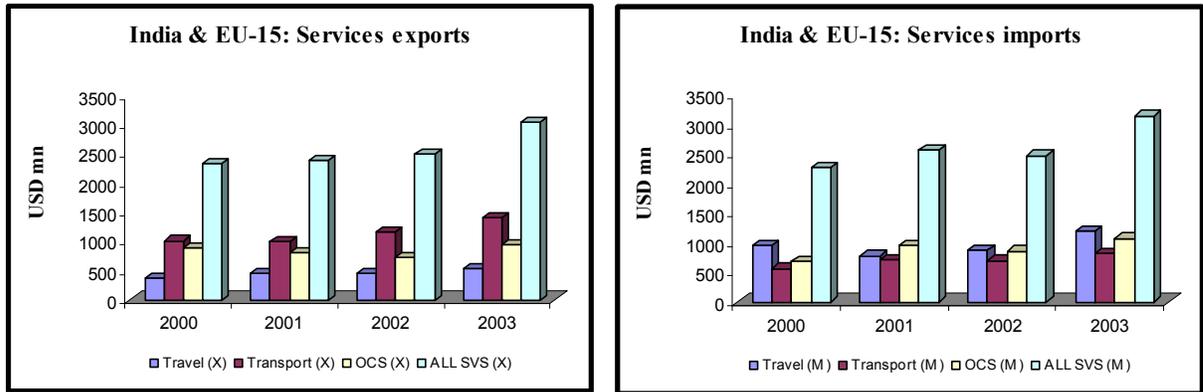
**Figure 3.25: Composition of EU Service imports 1998, 2004**

Category (figures in ECU billion)	1998	2004	Growth rate	Percentage Shares	
Travel	158	223	41.5%	32%	28%
Transportation	108	174	61.2%	22%	22%
Insurance	11	22	98.7%	2%	3%
GNIE	8	10	27.6%	2%	1%
Communication	10	21	103.9%	2%	3%
Construction	12	14	14.2%	2%	2%
Financial	12	30	152.5%	2%	4%
Software	9	22	143.8%	2%	3%
Royalties, copyrights & license fees	28	43	55.2%	6%	5%
Other services	122	214	75.0%	24%	27%
<b>Total</b>	<b>499</b>	<b>787</b>	<b>57.7%</b>	<b>100%</b>	<b>100%</b>

Source: Eurostat

Unfortunately only very basic data is available regarding the bilateral trade relations in services between the EU and India. The charts below show the bilateral flows broken down into travel, transportation and other commercial services (“OCS”). The chart on the left depicts India’s services exports to the EU while the chart on the right depicts India’s imports from the EU.

**Figure 3.26: EU-India Bilateral trade in Services**



Source: OECD Bilateral Services Database, 2006;

The share of OCS in exports and imports is roughly the same and increasing slightly overtime. India exports more transport than travel services to the EU and these exports have been going up, while the situation is exactly the opposite in terms of India's imports from the EU and travel imports have been on the rise here. Unfortunately, data is available for all the 25 EU Members only for 2003 but there is hardly any difference in the numbers with exports of all services higher by 17 mn USD and those of imports higher by 25 mn USD. What is really interesting, however, is that this total bilateral services trade accounts for 25% of India's total trade in services, while for the EU, this share is a mere 1%. Clearly then, the EU is much more important for India than vice-versa as far as their trade in services is concerned.

## 4. Deep Integration

In the preceding sections of the report we have analysed the likely shallow integration impact of a future FTA between India and the EU by focussing on the implied reductions in tariffs and the impact of their removal on intra-FTA trade compared to trade between the FTA and other countries. The conclusion arrived at there was that for the EU there is likely to be a small amount of trade creation with a greater likelihood of trade diversion. For India, there is potentially more scope for both trade creation and trade diversion, with a strong possibility of the latter dominating the former. In this part of the report we turn to considering the possible scope for further sources of welfare gain which are typically, though not necessarily uniquely, associated with moves towards deeper integration, and which may well exceed the shallow integration effects discussed earlier.

There is a large literature which describes a range of possible welfare effects arising from closer integration between countries. The list of additional effects includes:

- technology and knowledge transfers, and technology diffusion, especially from developed countries to developing countries, that may increase productivity;
- dynamic comparative advantage and “learning by doing” efficiency gains through increased demand from expanded trade;
- elimination of wasteful rent seeking activities through trade liberalization;
- pro-competitive gains from increasing import competition in an environment of imperfect competition, which may also allow greater exploitation of economies of scale in production;
- increased geographical dispersion of production through trade that supports (i) exploitation of different factor proportions for different parts of the production process (Ricardian efficiency gains) and/or (ii) local economies of scale through finer specialization and division of labour in production (“Smithian” efficiency gains);
- increased foreign direct investment that carries with it advanced technologies and hence increases in productivity;
- “challenge-response” increases in efficiency through increased competition due to expanded involvement in world markets;
- Schumpeterian innovation and “creative destruction” induced by increased competition arising from expanded trade; and
- externalities arising from institutional changes that lead to a wide increase in productivity.

It is of course important to note that many of the effects identified above are by no means specific to processes of preferential liberalisation, and may well arise from trade liberalisation more generally. However there are also several reasons for supposing that

appropriately constructed regional trading arrangements may be more likely to generate such gains.

Hence, common to several of the identified effects is the notion of externalities — these are gains arising from factors beyond the control of individual producers. Externalities could be: external to the firm but internal to the industry (eg. standards); external to the firm and industry, but internal to the country (eg. legal system); external to the firm, industry and country, but internal to the region (eg. compatible transport infrastructure); international (eg. establishing and maintaining a rule-based international trading system). Common standards are a very good example of the first of these, and are essential part of the process of enabling the segmentation of production processes, allowing both vertical and horizontal specialisation. Achieving agreement on standards may well be easier at the regional than multilateral level thus facilitating greater segmentation of the production processes at the regional level. It may also be easier from the political economy perspective for governments to positively intervene in standards setting where they are required to do so under the preferential agreement. Of course there also potential problems and costs associated with setting standards if they are either set inappropriately high and/or if used for protectionist purposes.

There also important linkages and externalities, which arise between industry, agriculture and services. Competitive services – be they, for example, banking, insurance, legal services, telecommunications etc – are an increasingly important feature of the increasingly integrated world economy. The realisation of the liberalisation of services across the various GATS modes will lead to both direct comparative advantage induced gains, as well as increasing the competitiveness of the service-using industries, as well as the promotion of externalities in and between other sectors.

Closer integration is also likely to lead to the increased geographical dispersion of production through trade. That dispersion is likely to occur both in terms of vertical specialisation and horizontal specialisation. In so doing it allows for greater exploitation of local economies of scale through finer specialization and division of labour in production. It also increases the scope for technology transfer / diffusion, for increased foreign direct investment, for learning-by-doing efficiency gains, widening markets, and increasing productivity. Each of these effects, and closer integration are then more likely in the absence of tariff and non-tariff barriers to trade, and in the presence of clear and facilitating investment rules, where there is regulatory harmonisation (eg. product or process standards), where there are provisions to deal with issues such as anti-dumping, subsidies, and competition policy. In turn, preferential trading arrangements can typically go further and deeper in agreeing on those policies that are likely to facilitate such deeper integration.

The key issue here is that where there are potential productivity-generating externalities, border measures such as tariffs only constitute a part of the story, and may well be less important than policies of deep integration that exploit the potential externalities. It is more likely that the potential for productivity gains will be achieved the greater is the realisation of a “common economic space” as a result of the FTA. This common

economic space requires both removal of barriers to trade that operate beyond borders (e.g. discriminatory taxes and regulations) and action to undertake common policies needed for dealing with the existence of public goods and externalities. Of course, the impact of deep integration will clearly depend on whether the norms adopted are appropriate — i.e., generate positive externalities and promote trade. Broadly speaking, adopting appropriate standards is synonymous with finding the appropriate intuitional framework for dealing with externalities.

Deeper integration expresses itself both in the form of policy measures and market processes. Deeper market integration at the firm level manifests itself in the form of willingness by firms to commit to "niche specialisation" usually with concentration on particular quality characteristics. This can be by the production of a narrower range of products and finer "horizontal" division of labour. It can also occur when the chain of production is chopped up vertically with components being made in one place and assembled elsewhere. What these processes all have in common is a move away from homogeneous "commodity" products to ones whose sale depends on the ability to secure recognition of the standards of the product, both in terms of pure quality and in terms of compatibility with user needs. For the exporter to be willing to invest in specialised items and the reap economies of scale therefore they must have some guarantee of market access. This may be provided by the private sector through long term contracts and private quality inspection services, but there are many aspects of this that require at least some form of approximation of public norms.

In considering the possible deep integration issues in the context of an EU-India FTA it is therefore important to consider not just the implications of the removal of tariff barriers, but also the implications of the removal of non-tariff barriers and the possibilities for positive integration which may deal, for example, with regulatory harmonisation, with investment rules, with liberalisation of services, and with measures of trade defence.

There is a wide range of possible "barriers" or "impediments" to deeper integration, important to consider. These include standards, technical barriers to trade, trade defence measures, trade facilitation, investment provisions, the extent of liberalisation in services, government procurement, and intellectual property rights. These issues are dealt with in Annex 3 of this report where we examine in some considerable detail the procedures and practices in India relating to these, and where we also identify potential problem areas. It is also important to consider carefully the role and potential for foreign direct investment arising from an FTA. Many of the deep integration benefits identified earlier are closely interrelated to the scale and nature of FDI in a given economy. This issue is dealt with in more detail in Annex 2 of this report where we detail the rules and procedures governing investment in India and identify the principal obstacles or constraints to FDI. In Annex 2 of the report we also provide a quantitative analysis of the potential for increased FDI flows arising from preferential trade liberalisation.

In this part of the report we therefore focus on the following. First, we provide a summary discussion of the climate for FDI in India. This is important because of the important role of FDI in enabling the gains from deeper integration. We then consider

two additional issues, which are likely to be important in facilitating any potential deep integration gains. These are the nature of facilitating institutions, and the role of public/private ownership. Facilitating institutions are also discussed in Annex 3 to this report, where we discuss the possible obstacles and problems, which arise when considering facilitating institutions. In this part of the report we focus on identifying which are the principal organisations and bodies relevant to the process of trade facilitation in India, as well as explaining their key functions. In evaluating the possibilities for gains from deep integration it is also important to consider the extent of the involvement of the public sector in the given economy. That involvement can either be in terms of purchasing (ie government procurement), or in terms of public-sector participation in production. The former is dealt with in Annex 3 to this report. We deal with the latter in this part of the report where we provide a discussion of the evolving policy towards public sector involvement in the Indian economy.

In the fourth section, we then explore the extent of any evidence suggesting the presence of non-tariff barriers to trade in India. While recognising that some non-tariff barriers can also be seen as border barriers highly analogous to tariffs, many non-tariff barriers are more closely associated with issues of deep integration, which thus justifies their separate treatment. We consider non-tariff barriers in two ways. First, we use the World Bank NTB data set and examine the level and incidence of Indian non-tariff barriers. Secondly, we have constructed our own database, which provides a combination of both qualitative and quantitative information on both horizontal and sectoral-level non-tariff barriers to trade and investment in India.

In the third part of this section we again look at trade statistics – this time focussing on indices of intra-industry trade and explore what light these shed on the potential for deep integration gain. As discussed above, deeper integration and the welfare benefits therein are typically closely associated with both Ricardian and Smithian specialisation. Evidence for this can be again sought in the evolution of both intra and inter industry trade, and where we also distinguish between horizontal and vertical specialisation.

#### **4.1. Foreign Direct Investment (FDI)**

Reforms in this field have been extensive beginning with the reform of year 1991. Following are the salient features of the 1991 policy on foreign investment:

1. For the first time the concept of automatic approval was introduced. The RBI was empowered to approve equity investment up to 51 percent in 34 industries, listed in Annex 3 of the policy statement. Subsequently all industries were included in this category except those industries which were subject to public sector monopoly and industrial licensing.
2. In 48 industries, accounting for the bulk of the country's manufacturing production, ceiling for automatic approval was fixed at 51 percent

3. In 8 industries, such as mining services, electricity generation and transmission, construction of roads, ports, airports, etc, the automatic approval route for equity investments raised to 74 percent.
4. All manufacturing industries in Special Economic Zones (SEZs), except those industries under government monopoly and licensing, were allowed 100 percent automatic approval of direct foreign investment.
5. Defence was also opened to private sector with 100 percent investment license and with 26 percent FDI. Subject to licensing.
6. In certain other sectors such as private banks, telecommunications, retailing etc FDI up to 74 percent has been allowed.
7. FDI up to 26 percent, subject to license from the Insurance Regulatory and Development Authority (IRDA, 1999), allowed in insurance.
8. FDI up to 100 percent is permitted in e-commerce. Automatic approval is available for foreign equity in software and almost all areas of electronics.

Today barring a few areas, foreign investment in India can be made in all sectors under the Automatic Route under which foreign investors only need to inform the Reserve Bank of India within 30 days of bringing in their investment and within 30 days of issuing any shares. In most sectors, foreign investment is permitted up to 100% of the paid up capital. Only in some areas, is investment subject to sectoral caps on account of security/strategic/sectoral considerations. FDI up to 100% has been permitted under the Automatic Route for manufacture of drugs and pharmaceuticals, in hotel and tourism sector, for Mass Rapid Transport Systems in all metropolitan cities including associated commercial development of real estates. A new Auto policy has been unveiled, which does away with indigenization requirements or trade balancing obligations and allows foreign equity investments up to 100% under automatic approval. Investment up to 100% is also permitted with government permission in airports, for development of integrated townships, city and regional level urban infrastructure facilities such as roads and bridges, mass rapid transit systems and manufacture of building materials, in courier services subject to exclusion of activity relating to distribution of letters. FDI up to 49% from all sources is permitted in the banking sector on the automatic route.

Recently the government has approved partially opening retail markets to foreign investors by allowing 51 percent FDI in single brand products. Besides retail, other sectors are being opened which include: 100 percent FDI allowed in new sectors such as power trading, processing and warehousing of coffee and rubber; FDI limits raised to 100 percent under automatic route in mining diamonds and precious stones, development of new airports, cash and carry wholesale trading and export trading, laying of natural gas pipelines, petroleum infrastructure, captive mining of coal and lignite; subject to other regulations, 100 percent FDI is allowed in distilling and brewing of potable alcohol, industrial explosives and hazardous chemicals; Indian investors allowed to transfer shares in an existing company to foreign investors; limit to telecom services firms raised to 74 percent from 49 percent.

The investment scenario is now fast changing and India is being considered a stable country for investment and increasingly more countries and international firms are

looking for investing in India. The UNCTAD considers India a “dominant host countries” for FDI in Asia and the Pacific. India attracted more than three times foreign investment at \$ 7.96 billion during the first half of 2005-06, as against US\$ 2.38 billion during the corresponding period of 2004-05.

As a result of these initiatives, the FDI policy framework of India today is amongst the most liberal investment regime. The actual inflow of FDI into India increased from \$96 million in 1990-91 \$4734 million in 2001-02 and \$3240 millions in 2004-05. To some extent, the industrial slow down and certain structural factors have a bearing on the investment.

## ***4.2. Facilitating Institutions***

In this section we detail the key agencies and bodies responsible for aspects of trade facilitation in India. It is perhaps not surprising that the majority of these are focussed on the facilitation of Indian exports, as opposed to concerned with trade facilitation on the import side. The bodies are listed here in alphabetical order:

### **Agricultural and processed Food Products Export Development Authority (APEDA):**

The APEDA was set up by an Act of Parliament of 1986 and came into being on 13th February 1986. The APEDA is also a statutory body, which is entrusted with the tasks of agricultural exports, including the export of processed foods in value added form. Its’ Headquarters are located at New Delhi and it has a number of Regional Offices.

APEDA came into existence to further develop Indian agricultural commodities and processed foods, and to promote their exports. It aims to maximise foreign exchange earnings through increased agro exports, to provide better income to the farmers through higher unit value realisation and to create employment opportunities in rural areas by encouraging value added exports of farm produce. Floriculture, walnuts, fresh mangoes, fresh grapes, pickles and chutneys, poultry and others are exported to EU from India through APEDA.

APEDA identifies new markets, provides better support systems to Indian exporters and manufactures. It also provides information to the Indian exporter and importer on EU market regulations along with organising product promotions in EU and other countries. In addition, it also provides recommendatory, advisory and other support services to trade and Industry in India.

**Board of Trade:** The Board of Trade was been revamped and given a clear and dynamic role in advising government on relevant issues connected with Foreign Trade Policy. It is intended that will be a process of continuous interaction between the Board of Trade and Government in order to achieve the desired objective of boosting India’s exports (Industrial Policy Statement 1991).

The Board of Trade has the following terms of reference:

- To advise the Government on Policy measures for preparation and implementation of both short and long term plans for increasing exports in the light of emerging national and international economic scenarios;
- To review export performance of various sectors, identify constraints and suggest industry specific measures to optimize export earnings
- To examine the existing institutional framework for imports & exports and suggest practical measure for further streamlining to achieve the desired objectives
- To review the policy instruments and procedures for imports & exports and suggest steps to rationalize and canalize such schemes for optimum use
- To examine issues which are considered relevant for promotion of India's foreign trade, and to strengthen the international competitiveness of Indian goods and services
- To commission studies for furtherance of the above objectives

Composition: the Government nominates an eminent person or expert on trade policy to be Chairman of the Board of Trade. The Government also nominates 25 persons, of whom at least 10 will be experts in trade policy. In addition, Chairmen of recognized Export Promotion Councils and President or Secretary-Generals of National Chambers of Commerce will be ex-officio members.

### **Commodity Boards:**

There are five statutory Commodity Boards under the Department of Commerce. These Boards are responsible for production, development and export of tea, coffee, rubber, spices and tobacco. These five commodity boards are the nodal agencies for promotion of both domestic consumption and export of these commodities under the Ministry of Commerce & Industry. These boards help the growers in improving yields of the products and upgrading the quality through research. The boards also help to modernise the factories through their extension services to growers. They also serve the role of providing information on domestic and export market to the growers to act accordingly.

### **Director General of Commercial Intelligence and Statistics (DGCIS):**

The DGCIS is the principal organisation for collecting, compilation and dissemination of India's trade statistics and commercial information. For more than 100 years this Directorate General is the principal authority on the trade information in India.

The DGCIS collects, compiles and disseminates complete India's trade statistics and commercial information to the exporters and importers in the country. The DGCIS regularly issues monthly press note containing the aggregate figures of India's exports and imports towards the end of the following month. After release of the Press Note a monthly brochure entitled 'Foreign Trade Statistics of India' (Principal Commodities and

Countries) is brought out within 6 to 7 weeks. The brochure contains foreign trade data grouped by principal commodities, countries and major Indian ports for the current month and the corresponding month of previous year.

**Export Credit Guarantee Corporation of India Ltd. (ECGC)**

ECGC provides a range of credit risk insurance covers to exporters against loss in export of goods and services. It also offers guarantees to banks and financial institutions to enable exporters to obtain better facilities from them. It also provides overseas investment insurance to Indian companies investing in joint ventures abroad in the form of equity or loan.

**Export Inspection Council (EIC):**

The EIC is an autonomous advisory body to the Central Government. It is responsible for the enforcement of quality standards and compulsory pre-shipment inspection of the various commodities meant for export and notified under the Export (Quality Control & Inspection) Act, 1963. It was set up under Section (3) of the Export (Inspection and Quality Control) Act, 1963. The EIC is empowered to notify the commodities which will be subject to quality control and/or inspection prior to export, establish standards of quality for such notified commodities, and specify the type of quality control and/or inspection to be applied to such commodities.

The EIC also renders services in the areas of: certification of quality of export commodities through installation of quality assurance systems (In-process Quality Control and Self Certification) in the exporting units as well as consignment wise inspection; certification of quality of food items for export through installation of food safety management system in the food processing units and issuance of certificates of origin to exporters under various preferential tariff schemes for export products.

The EIC also provides laboratory-testing services. Training and technical assistance to the industry in installation of Quality and Safety Management Systems based on principles of Hazard Analysis Critical Control Point (HACCP), ISO-9001: 2000, ISO: 17025 and other related international standards, laboratory testing, recognition of inspection agencies as per ISO 17020 and Laboratories as per ISO 17025 and utilizing them for export inspection and testing are also done by EIC.

The EIC is assisted in its functions by the Export Inspection Agencies (EIAs) located at Chennai, Delhi, Kochi, Kolkata and Mumbai along with a network of 42 sub-offices and laboratories to back up the pre-shipment inspection and certification activities.

**Export Promotion Council (EPC):**

Indian products like textiles, chemicals and minerals, engineering products, gems and jewellery and many others are exported to EU and other countries through the export promotion councils. The councils provide the necessary assistance to the Indian exporters

to increase their export in EU and other countries. EPC in India identifies the markets, provides financial assistance, sponsors participation in fairs and exhibitions and also conducts publicity in the other countries. The EPC's also advises the government on export promotion measures and helps the exporters' community in bringing their problems and requirements to the notice of the government. So among all the EPCs in India the export promotion councils of these products are more active in EU to increase the export volume from India.

There are at present eleven EPC under the administrative control of the Department of Commerce and nine EPC related to textile sector under the administrative control of Ministry of Textiles. These Councils are registered as non-profit organisations under the Companies Act/Societies Registration Act. The EPC perform both advisory and executive functions. These Councils are also the registering authorities under the Export Import Policy, 1997-2002. These Councils have been assigned the role and functions under the said Policy.

The EPC includes

- Engineering export promotion council
- Project exports exporters promotion council of India
- Basic chemicals pharmaceuticals and cosmetics export promotion council
- Chemicals and allied products export promotion council
- Council for leather exports
- Sports goods export promotion council
- Gem and jewellery export promotion council
- Shellac export promotion council
- Cashew export promotion council
- Plastic export promotion council
- Export Promotion Council for EOUs & SEZ Units
- Pharmaceutical Export Promotion Council
- Under the textile sector the main EPC are-
- Apparel export promotion council
- Carpet export promotion council
- Cotton textile export promotion council
- Export promotion council for handicrafts
- Handloom export promotion council
- Indian silk export promotion council
- Power loom development & export promotion council
- Synthetic & rayon textile export promotion council
- Wool & woollen export promotion council

**Federation of Indian Export Organisations (FIEO):**

The FIEO, New Delhi is an apex body of various export promotion organisations and institutions. It was set up in 1965 and it registered under the Societies Registration Act, 1860. It also functions as a primary servicing agency to provide integrated assistance to

Government recognised Export Houses / Trading Houses and acts as a Central Co-ordinating Agency in respect of export promotional efforts in the field of consultancy services in the country. FIEO organises seminars and sends Trade Delegations to overseas markets for export promotion. The Federation brings out 'FIEO News', a yearly publication for the use of its member exporters and importers.

As the FIEO's activities and programmes are directed towards assisting its members to extend their global reach and increase their exports. FIEO is actively involved with the Central and State Governments to improve and upgrade the export policy and the associated administrative, financial and operational machinery of the Central and State Governments, as well as the infrastructural and fiscal support available to exporters.

**Indian Council of Arbitration (ICA):**

The ICA set up under the Societies Registration Act, promotes arbitration as a means of settling commercial disputes and popularising the concept of arbitration among the traders, particularly those engaged in international trade. The Council, a non-profit service organisation, is a grantee institution of the Department of Commerce and is eligible for assistance under the Market Development Assistance (MDA) Scheme of the Department. The main objectives of the Council are to promote the knowledge and use of arbitration and provide arbitration facilities for amicable and quick settlement of commercial disputes with a view to maintaining the smooth flow of trade, particularly, export trade on a sustained and enduring basis.

**Indian Diamond Institute (IDI):**

The IDI is registered under the Societies Registration Act. It was established in 1978 with the objective of strengthening and improving the availability of trained manpower for the gems & jewellery industry by conducting various Diploma/Post Graduate Diploma level courses in this field.

**Indian Institute of Foreign Trade (IIFT):**

The IIFT was set up by the Government of India as an autonomous organisation to help professionalise the country's foreign trade management and increase exports by developing human resources; generating, analysing and disseminating data; and conducting research. Hence the IIFT is engaged in: the training of personnel in modern techniques of international trade; conducting market research in problems of foreign trade; organising market research, area surveys, commodity surveys, market surveys; and in the dissemination of information arising from its activities relating to research and market studies.

IIFT plays a substantial role in identifying the products of export interest of India and also in highlighting the areas in which economic cooperation could be formed through trade initiatives with other countries. The IIFT is registered under the Societies Registration Act 1860 as Society. The Institute became functional on 1st April 1964.

**Indian Institute of Packaging (IIP):**

The IIP is registered under the Societies Registration Act 1860. The Department of Commerce and the Packing and Allied Industries of the country established it in the year 1966 jointly. A Director heads the Institute. It is located at Mumbai. The main aim of the Institute is to undertake research in raw materials for the packaging industry, to organise training programmes on packaging technology and to stimulate the need for good packaging etc.

**India Trade Promotion Organisation (ITPO):** ITPO, New Delhi, is the premier trade promotion agency of India and provides a broad spectrum of services to trade and industry so as to promote export. With Headquarters at Pragati Maidan, a modern exhibition complex spread over 150 acres in New Delhi and regional offices at Bangalore, Chennai, Kolkata and Mumbai, ITPO ensures a representative participation of trade and industry from different regions of the country at its events in India and abroad.

**Interstate Trade Council:**

In the India Governments' Trade Policy, 2004-09, it was decided to constitute an Inter-State Trade Council with immediate effect in order to ensure a continuous dialogue with State Governments and Union Territories. The Inter-State Trade Council would inter-alia advise the Government on measures for providing an international trade enabling environment in the States and to create a framework for making States partners in India's international trade and export effort to achieve the objective of boosting India's exports. To our knowledge so far no meeting of the Council has taken place.

**Marine Products Export Development Authority (MPEDA):**

The MPEDA was set up under Section (4) of MPEDA Act, 1972 and became functional from 20th April 1972. It is a statutory body functioning under the Department of Commerce. The MPEDA, a statutory body, is responsible for development of the marine products industry with special reference to exports. It has its headquarters at Kochi and has a number of Regional and Sub-Regional Offices. Besides, it has Trade Promotion Offices at Tokyo and New York.

The EU has become the largest importer of Indian marine products in recent years. Consumers in the EU have become increasingly demanding in terms of the choice, quality, freshness, nutritional value and microbiological safety of food. MPEDA develops new products for export through research and also provides training in new technology and invites overseas technical experts to India. It also helps in quality improvement of the products (through testing and elimination of heavy metals, pesticides and antibiotic residues using advanced technology), which helps the industry to cope up with the increasing demand for safe food and to satisfy the needs of health/quality conscious

consumers of the global seafood market. It also works to maintain good rapport with regulatory authorities in the importing countries.

**National Centre for Trade Information (NCTI):**

NCTI is a joint venture of India Trade Promotion Organisation (ITPO) and National Informatics Centre (NIC) under the aegis of Ministry of Commerce, and was set up to synergise the efforts of different organisations engaged in collection, processing and dissemination of trade and investment information. It was incorporated and registered as a company under Section 25 of Indian Companies Act, 1956. The company has a Board of Directors for administration of its affairs, which include representatives from National Informatics Centre, India Trade Promotion Organisation, Apex chamber of Commerce/ Industry/ Trade, Export Promotion Councils and Commodity Boards etc. NCTI

The NCTI collects and disseminates trade data to improve information services to the business community especially small and medium enterprises. It is a non-profit joint venture of India Trade Promotion Organisation (ITPO) and National Informatics Centre (NIC). Govt. of India has recognised NCTI as the Trade Point in India under the Trade Efficiency Programme of United Nations Conference on Trade & Development (UNCTAD). NCTI is also specialised in carrying out analysis of trade statistics at the country and regional level encompassing global imports and bilateral trade with India.

**National Numbering Organisation (EAN-India):**

EAN-India is a society registered under the Societies Registration Act with objectives of promoting Article Numbering, Bar Coding and EDI in Indian trade and industries. It is managed by a board of management comprising of representatives of the Ministry of Commerce, APEDA, ASSOCHAM, BIS, CII, FICCI, FIEO, Spices Board, Indian Merchant Chamber, Mumbai and Indian Institute of Packaging, Mumbai. It is a member of EAN International based at Brussels.

**Public Sector Undertakings:**

The following trading/service public sector undertakings are functioning under the administrative control of the Department of Commerce:

- The State Trading Corporation of India Ltd. and its subsidiaries
- STCL Limited (Formerly Spices Trading Corporation of India Limited).
- MMTC Ltd. (Formerly known as Minerals and Metals Trading Corporation of India Ltd) PEC Ltd (Formerly known Projects & Equipment Corporation of India Ltd)
- Export Credit Guarantee Corporation of India Ltd. (ECGC)
- India Trade Promotion Organisation (ITPO)

**State Trading Corporation (STC):**

STC acts as an expert guide for buyers interested in Indian goods. For them, STC finds the best Indian manufacturers, undertakes negotiations, fixes delivery schedules, oversees quality control-all the way to the final shipment to the entire satisfaction of the buyer. The Indian manufacturers, whose products sail the seas via STC, benefit a lot from its expertise. STC helps thousands of Indian manufacturers to find markets in EU and other countries for their products. STC assists the manufacturers to use the best raw materials, guides and helps them manufacture products that will attract buyers abroad.

STC also takes products of small-scale manufacturers to international trade fairs and exhibitions and also provides assistance in the areas of marketing, technical know-how, quality control, packaging, documentation, etc. STC also supplies imported goods in small quantities as per convenience of buyers. Indian consumers also benefit from STC's expertise and infrastructure. STC imports essential commodities for them to cover shortfalls arising in the domestic market.

**Tariff Commission:** The Tariff Commission was established in September 1997. The Commission functions as an expert body to recommend appropriate tariff levels keeping in mind the larger economic interests of our country. Bureau of Industrial Costs & Prices was merged with the Commission in April 1999, to provide in-house support. The Commission also conducts studies on costing and price fixation referred to it by Central Ministries and Agencies. The Commission also studied matters concerning State governments and their agencies related to the tariff issues. Studies are also often undertaken in response to issues raised by industry associations, manufacturing units etc. There is close liaison with database and information maintained by trade and tariff related bodies, agencies and government departments. The Commission is headed by a full time Chairman of the rank of Secretary to the Government of India and assisted by a full time Member Secretary in the rank of Additional Secretary.

### **4.3. Public/Private Ownership**

The public sector has historically played an important role in India's development through the building of infrastructure for economic development, the creation of employment opportunities and self-reliance through the development of industries – especially in the heavy and capital-goods intensive sectors. However, excessive dependence on this sector and its monopoly power with excessive governmental controls resulted in well known problems of inefficiency, poor levels of productivity and unprofitability.

Immediately after independence, the Government of India came out with the industrial policy resolution (IPR) in 1948, which classified industries into four categories. The Industrial Policy Resolution (IPR) of 1956 was much more comprehensive, and operated more or less with some modifications until 1991. According to the 1956 IPR industries were classified into three categories:

**Schedule A:** consisting of 17 industries such as arms, atomic energy, iron and steel, coal, mineral oils, mining, air and railway transport, generation and distribution of electricity and others. These industries were to be the exclusive responsibility of the state (public sector);

**Schedule B:** comprised 12 industries in which the State would generally set up new enterprises while the private sector would be expected only to supplement the efforts of the state.

**Schedule C:** comprised the remaining industries where private sector would take the lead.

Agriculture remained in the private sector where ownership was to be with the private individuals. Thus, India adopted a mixed economic structure where the public sector was assigned the responsibility of setting up Schedule A industries and to some extent the Schedule B industries and the creation of basic infrastructure such as power, rail-road-port-airport, irrigation dams and canals, etc. and social infrastructures such as education, health, water supply etc. Among the most important institutional features of the Indian economy was thus the large share of the public sector in overall, as well as in industrial investments. This may be important when considering the impact of changes in trade and exchange rate policies, as adjustment in these sectors is not necessarily a function of changing profitability, as would be the case for the private sector.

The share of the public sector in total Indian investment has been estimated at over 46% for the First Plan (1951-56), over 61% for the Second (1956-61) and over 58% for the Third (1961-66). The public sector's share in Organised Industrial Sector investment has consistently been over 50% during this period. Within the industrial sector, furthermore, the government invested significantly in heavy industry: steel, oil refineries, heavy electrical and heavy engineering being the major areas. The distribution by sector of cumulated investment in public sector projects during 1965-66 registered 40.62 percent for steel, 20.29 percent for engineering, 9.11 percent for chemicals, 12.22 percent for petroleum and 7.49 percent for mining and minerals. Financial institutions, shipping, aviation and miscellaneous activities accounted for the remaining 10.29 percent.

The share of the public sector in GDP at factor costs has been consistently rising and stood at 13.74 percent in 1970-71 (86.26% contributed by private sector) which steadily rose to 19.61 percent in 1980-81 and further to 25.13 percent in 1990-91. After reaching at its peak level at 26.08 percent in 1991-92, it started declining due to the policy change in 1991 when the liberalisation-privatisation-globalisation (LPG) policy was initiated by the government, which sought to curtail the size and role of public sector.

As of the 31 March 2001 as many as 234 public sector undertakings (PSUs) were operating in India and 16 were under construction. Out of 234 PSUs, 156 were

manufacturing/producing goods and 78 were rendering services. The total investment in these PSUs stood at Rs. 274114 crores (2741 billion)<sup>14</sup>.

The table below shows the net capital stock in industry and the share of the public sector during the post-liberalisation period between 1994 and 2004. The dominance of the public sector in mining and electricity continued to persist even after industrial liberalisation and opening of these sectors to private sector participation. There is hardly any perceptible fall in the share of the public sector in the net capital stock of mining and electricity enterprises. In contrast the share of the public sector in manufacturing declined from 24.1% in 1994, to 11.72% in 2004.

The privatisation process began in 1991-92 with the sale of minority stakes in some PSUs. From 1999-2000 onwards, the focus shifted to strategic sales. In the year 2003-04, disinvestments through public sale of shares were predominant.

**Table 4.1: Net Capital Stock in Industry and the Share of public sector**

Net capital Stock in Industry and the Share of public Sector							
	1994	2000	2001	2002	2003	2004	CAGR
	In Rupees crore at 1993-94 Prices						In per Capita
Mining	75,199	84,061	81,433	80,662	79,351	82,604	0.94
Manufacturing	504,658	956,510	1,001,381	1,031,305	1,070,999	1,123,391	8.33
Electricity, Gas & Water Supply	215,585	277,539	286,758	297,942	303,762	310,832	3.73
Share of the Public Sector (per cent)							
Mining	94.3	93.57	93.13	92.38	92.31	92.77	-0.16
Manufacturing	24.1	14.65	13.73	13.01	12.67	11.72	-6.95
Electricity, Gas & Water Supply	92.8	88.49	87.65	86.28	85.81	85.58	-0.81

Source: Economic Survey-2005-06

Table 4.2 below compares the actual disinvestments proceeds with the annual target. From the table is clear that the annual targets for privatisation have only been met on four occasions, and that over the period the actual proceeds are just under 50% of the target proceeds.

<sup>14</sup> See Public Enterprises Survey, 2000-01

**Table 4.2: Disinvestments in public sector undertakings**

Year	Target (Rs. Crore)	Proceeds (Rs. Crore)	Proceeds as % of target
1991-92	2,500	3038	122%
1992-93	2,500	1913	77%
1993-94	3,500	-	0%
1994-95	4,000	4843	121%
1995-96	7,000	362	5%
1996-97	5,000	380	8%
1997-98	4,800	902	19%
1998-99	5,000	5371	107%
1999-00	10,000	1860	19%
2000-01	10,000	1871	19%
2001-02	12,000	5632*	47%
2002-03	12,000	3348	28%
2003-04	14,500	15,547	107%
Total	92,800	45067	49%

Source: Ministry of Disinvestments, Gov. of India

\* Figures inclusive of amount realized by way of control premium, dividend/ dividend tax and transfer of surplus cash reserves prior to disinvestments etc.

As per the Common Minimum Programme (CMP), the United Progressive Alliance (UPA) Government is currently committed to a strong and effective public sector whose social objectives are also to be met by its commercial functioning. But for this, there is need for selectivity and a strategic focus. The UPA pledged to devolve full managerial and commercial autonomy to successful, profit-making companies operating in a competitive environment. Generally profit-making companies are not to be privatized. All privatizations would be considered on a transparent and consultative case-by-case basis. The UPA would retain existing “navaratna” companies (profit making PSUs) in the public sector while these companies raise resources from the capital market. While every effort will be made to modernise and restructure sick public sector companies and revive sick industry, chronically loss-making companies will either be sold off, or closed, after all workers have got their legitimate dues and compensation. The UPA will induct private industry to turn-around companies that have potential for revival. The current policy then of the UPA government in this regard is that the government is committed to a strong and effective but commercially viable public sector.

**Table 4.3: Disinvestments Proceeds during 2003-04**

Industry	Company	Government Equity Sold (%)
Manufacturing	Bharat Aluminium Company Limited (BALCO)	51
	Maruti Udyog Limited (MUL)	27.5 + 4.2
	Modern Food Industry	74
	Hindustan Zinc Limited (HZL)	44.98
	Jessop & Co. Ltd (Heavy Industry)	72
	ICIL	9.2
	Paradeep Phosphate limited (PPL)	74
	Indian Petrochemicals corporation Limited (IPCL)	26
Infrastructure/ Energy	National Thermal Power Corporation (NTPC)	5.25
	Gas Authority of India Limited (GAIL)	10
	IBP Limited	26
	DCIL	20
	Oil and Natural Gas Commission	9.9
Service Industry	CMC	51
	Videsh Sanchar Nigam Limited (VSNL)	25
	Indian Tourism Development Corporation (19 Hotels)	89.97

Source: <http://www.divest.nic.in/brlmmndc.htm>

Table 4.3 provides a picture of the recent disinvestment policy pursued by the government and the proceeds received therein. The disinvestments have covered a wide range of areas ranging from petroleum products to automobiles to heavy engineering to services (hotels) etc. In some Public Sector Undertakings (PSUs) the selling of government equity holdings was as high as 72 percent (Jessop & co. whose holding was received by heavy engineering industry, called Bharat Bhari Udog Nigam Ltd.). The only public sector automobile company, Maruti Udyog Ltd also divested its 27 percent equity, and in infrastructure sector (Gas Authority of India, (GAIL), Oil and Natural Gas Commission (ONGC) the strategic sale was limited to below 10 percent.

The disinvestment policy was primarily aimed to provide more capital resources to the concerning PSU thereby reducing the burden on exchequer to finance their deficits/losses. At the same time the objective was that such PSUs would be able to improve upon their efficiency and thus become profitable. The disinvestment policy was designed to inject more capital resources to the companies while other industrial liberalization policies, such as opening up to foreign competition, liberalizing capital goods imports, reducing tariffs, elimination of quantitative restrictions (QRs) on imports, eliminations of restrictions on capacity expansions, implementation of voluntary retirement schemes (VRS), permission to raise equity from capital markets, foreign technological collaborations, public-private participation schemes etc., would provide other required policy back up to help improve their competitiveness domestically as well as internationally.

In July 2005 Government of India under Ministry of Finance also approved a scheme for providing financial support to bridge the viability gap of infrastructure projects undertaken through public-private partnership (PPP). These infrastructure projects

include roads & bridges, railways, seaports, airports, inland waterways; power; urban transport, water supply, sewerage, solid waste management and other physical infrastructure in urban areas; infrastructure projects in Special Economic Zones; and international convention centres and other tourism infrastructure projects. A PPP project means a project based on a contract or concession agreement, between a government or statutory entity on the one side and a private sector company on the other side, for delivering an infrastructure service on payment of user charges. Viability Gap Funding (VGF) or Grant (not exceeding 20 percent of total project cost) means a grant one-time or deferred, provided under this scheme with the objective of making a project commercially viable.

#### **4.4. Non-tariff barriers to trade**

In this section of the report we consider in some more detail the role of non-tariff barriers to trade. As discussed earlier the motivation for dealing with non-tariff barriers to trade is that these can often reflect key impediments to deeper integration. Our consideration of the non-tariff barriers to trade takes two forms. First, we extract the relevant data on Indian NTBs from the work of Kee, Nicita and Olearraga, and consider the extent of non-tariff barrier, and non-tariff barrier peaks. Secondly, we have constructed a detailed database, which comprises all the reported cases of barriers to trade and investment in India derived across a range of sources and databases.

##### **4.4.1. NTBs at the detailed disaggregated level**

If we turn first to the consideration of the non-tariff barriers as reported in Kee et.al. These are implicit barriers, which are calculated by comparing the actual levels of Indian imports with a predicted level, where the prediction is based on an underlying econometrically estimated model of trade. The difference between the actual and the predicted is then explained through the derivation of an implied non-tariff barrier. It is important therefore to stress that these measures of non-tariff barriers are not based on direct data on such barriers, but on the assumption that in the presence of such barriers trade will be lower, and the tariff equivalent of such a barrier can be computed by comparing the predicted level of trade from the actual level of trade. Kee et.al. produce these non-tariff barriers for a wide range of countries and at the HS 6-digit level of aggregation. We have extracted the relevant information for India, and then performed a similar analysis to that reported earlier by looking at the number and level of non-tariff barrier peaks. The peaks are defined as those cases with respect to each HS 2-digit category. Within each of the HS 2-digit categories we see in how many cases is the NTB equivalent more than twice the value of the average tariff in that category.

In section 2.1 where we looked at tariff in a similar fashion we saw that tariff peaks in India were present in 16 of the HS 2-digit industries. With respect to the non-tariff barrier equivalents we see that tariff peaks are present in almost all of the HS-2-digit industries (in 86 cases), and thus are much more widespread. The average tariff-equivalent of the estimated NTBs is just over 18% at the HS 2-digit level, and for comparative purposes the average tariff across the same categories is just over 20%. Not surprisingly this

suggests that looking at tariffs alone potentially tends to underestimate the true level of protection by about 50%. It is also worth noting that there is only a mild correlation however, at the sectoral level between tariffs, and their NTB tariff-equivalents, with a correlation coefficient of approximately 0.15. The full table of NTB equivalents can be found in the appendix (Table 5.3), and Table 4.4 below provides the relevant information for those HS industries with the highest average tariff in the peak. Here we see that within particular HS categories there are extremely high NTBs reported in the Kee et al data set and even among the highest 15 reported here, there is considerable variation across the sectors.

**Table 4.4: Non-tariff barrier in India - 2004**

Cat. (HS2)	No. of Prod. Cat.	Av. Tariff	Av. NTB in Cat.	Av. NTB in Peaks	No. of Peaks
64	27	15.00	44.31	206.87	4
41	29	11.47	0.00	205.28	1
45	6	15.00	32.74	183.85	1
8	44	31.05	30.76	168.85	6
4	21	34.50	44.92	155.46	4
16	23	41.67	65.45	134.13	1
67	6	15.00	47.72	125.48	1
30	28	14.46	18.65	123.39	4
93	17	15.00	15.09	117.61	2
3	77	30.00	40.74	117.24	17
17	14	46.07	22.16	116.75	2
42	19	15.71	41.16	116.67	3
61	112	15.00	35.95	116.62	22
52	121	14.94	9.57	115.75	9
89	17	15.00	22.35	115.59	3
<b>Total</b>		<b>593</b>		<b>38</b>	

Source: Own Calculations

This analysis suggests that there are considerable non-tariff barriers to trade in India, and that while the average non-tariff barrier is similar to the average tariff levels in India, there is considerable variation within given HS 2-digit categories. This is reflected in the fact that the average tariff in the peaks is typically very high, and in over 27 cases is above 100%. This in turn suggests that non-tariff protection in India appears to be highly product (or tariff heading-line) specific. To the extent that the Kee et.al dataset accurately reflects the underlying non-tariff barriers to trade than this suggests that these are considerable in the Indian economy, and are therefore likely to mitigate against the possibility of future deep integration gains from shallow policy measures alone. From a

policy perspective therefore this suggests the need to try and remove as many as possible of such impediments to trade.

#### **4.4.2. Using the NTB case study data base**

The second way in which we consider the presence of non-tariff barriers to trade in India is by compiling a database of all known cases of reported problems with regard to trade with India. For this database we have used a wide range of sources such as the EU market access database, WTO cases or US trade barriers reports. Using these we gain valuable insights into particular cases and groupings of cases.

The first stage in this process required finding all reported individual case studies concerning non-tariff barriers to trade with India. We then input all this largely qualitative information into a database, and then supplement that database with some quantitative information. For example, in 2006 the EU complained about barriers with regard to the export of mineral water to India (as reported in the minutes of meeting between the EU and India). The basis for the complaint was that India was applying stricter norms than those set in the Codex Alimentarius, especially as regards pH levels, and that also there were strict limits for some other substances which precluded certain waters from entering Indian market. In addition to this we have calculated the share of EU trade (with India) that is accounted for by mineral water, we have included information on the relative competitiveness of both the EU and India with regard to mineral water (given by calculation of the required indices of comparative advantage), as well as detailed the applicable tariff levels, and the levels of non-tariff barriers as derived from the Kee et. al. data set. Hence for the case of mineral water described above, from the data set we can see that this accounts for 0.012% of the EU's trade with India (with a value of trade in 2004 equal to \$2,911,000, the EU has a revealed comparative advantage in this sector (RCA = 1.72), while India has a revealed comparative disadvantage (RCA = 0.02). Interestingly the estimated non-tariff barrier in this sector is very low at 2.2%, while tariffs are just over 34%.

The data sources for the database are:

- EU Market Access Database
- EU-India minutes of meetings
- US Trade Barriers Report for India
- EU-India TBT/SPS WG
- WTO Cases
- CEII Reports
- EU MAIA study

For each case we gathered data on following indicators:

**Table 4.5: Database: Information and sources**

Indicator	Description	Source
Sector	Agriculture, Industry, Services or FDI	Case Study
Sub-sector	A short description of the products concerned	Case Study
Product code	HS, SITC or ISIC. In order to link the data most accurately different classification schemes were used.	
Value EU exports to IND (000'\$)	Reported only if a standardized code/s could be assigned.	COMTRADE
Share of EU exports to IND	Identifies the relative importance of the sector in EU-Indian trade. Reported only if a standardized code/s could be assigned.	COMTRADE
Value of EU exports to the world (000'\$)	Reported only if a standardized code/s could be assigned.	COMTRADE
Share of EU exp to World	Identifies the relative importance of the sector in the EU's trade with the world. Reported only if a standardized code/s could be assigned.	COMTRADE
EU-RCA: India/World	Here the Revealed Comparative Advantage index is calculated on the basis of comparing the share of EU's exports in the sector to India, with the share of the EU's world exports in the sector. Where the index is less than 1 this indicates that as a proportion of its' exports the EU is exporting less to India than to the rest of the world. This could indicate the presence of barriers to imports. Reported only if a standardized code/s could be assigned.	Own calculations based on COMTRADE data
EU-RCA	Standard Revealed Comparative Advantage index, which looks at the share of the EU's exports of a given product, relative to world exports of that product. An index greater than one suggests a revealed comparative advantage, and vice versa. Reported only if a standardized code/s could be assigned.	Own calculations based on COMTRADE data
IND-RCA	Standard Revealed Comparative Advantage index, which looks at the share of India's exports of a given product, relative to world exports of that product. An index greater than one suggests a revealed comparative advantage, and vice versa. Reported only if a standardized code/s could be assigned.	Own calculations based on COMTRADE data
EU Tariff	Reported only if a standardized code/s could be assigned.	TRAINS
IND tariff	Reported only if a standardized code/s could be assigned.	TRAINS
Year		Case Study
Respondent		Case Study
Complainant		Case Study
Tariff/NTB	If NTB then what type: SPS, TBT, TRIPs, TF, IPR, NAMA	Case Study
est. NTB		World Bank Database
Issue	Short description of a given case	Case Study
Source	Full reference to a given case	Case Study
Horizontal or Product specific		Case Study
International standard	Yes or No	Case Study
Comments		

We now turn to a discussion of some of the key findings arising from utilisation of the database, where we have organised the discussion by considering different types of barriers. In this discussion we have only considered those cases with the EU as the “complainant” and India the “respondent”. The database does also include information with regard to other countries as complainants.

Consider first the issue of SPS. There were 13 cases reported where the EU was one of the complainants, most of them from the year 2006. It is interesting to note that just under 1% of EU exports to India was covered by these cases. The estimated NTB is equal to 34% on average, with an average tariff of 49%. Hence these are all industries with high tariffs and relatively high-reported non-tariff barriers to trade. In all of those cases the EU has a significant revealed comparative advantage with respect to world trade<sup>15</sup>. In contrast in all but one of these cases (Bovine products) India has a significant revealed comparative disadvantage. Consequently also in all cases we see that the share of these products in the EU’s exports to India, is lower than the share of their exports to India. This suggests, that in these products there is a significant potential for EU to expand further into Indian market. From this, there would appear to be clear evidence that Indian SPS barriers largely in those industries where the EU has a comparative advantage, while India has a comparative disadvantage. This is of course important from the point of view of the EU. However, it is worth tempering this conclusion with the observation that the actual value and share of EU trade so affected is very small and that demand in India is not necessarily the same as in the rest of the world. Of course, this does not necessarily mean that such barriers do not also exist in other sectors, nor that the problem is not more widespread. The database can only identify those areas where complaints have actually been raised.

TBT issues arise in 25 cases. Of these 22 are with regard to specific sectors / industries, and three cases apply horizontally across sectors. The latter are principally to do with issues of labelling, and with respect to advance notification of changes in regulations. Most of the cases arise in 2005 and 2006. The cases cover mainly electronic and machinery products, some textiles and few food products. The EU exports of those goods account for over 7% of its total exports to India, which is quite substantial. The corresponding patterns of comparative advantage are much more mixed. In roughly half of the cases EU has an RCA higher than India. These are also the cases in which the estimated NTB are high (on average equal to 27%, with average tariff of 31%). In the opposite cases, where the EU RCA is low the NTBs are frequently found not to have an impact on price (with estimates equal to 0%). The influence of NTB would therefore appear to be fairly clear, as they protect the markets in which EU has potential to expand, almost doubling the effects of tariffs. In a number of cases the EU (India-World) RCA is greater than one. As discussed in the table above, where this index is greater than one this

---

<sup>15</sup> It is important to note that the RCA indices were as far as possible calculated for the relevant classification heading (HS, SITC, ISIC) most closely corresponding to the product. Where this was not possible the RCA was not calculated. In certain cases also the product formed part of a larger aggregate grouping, and in those circumstances the reported RCA is for the more aggregate grouping. In the database, the relevant HS/SITC/ISIC class for which the RCA calculations were made is clearly identified.

indicates that as a proportion of its' exports the EU is exporting more to India than to the rest of the world.

Issues related to specific industry headings and TRIPs cover 1% of EU exports to India. We identified six cases described in the sources, five of them from the year 2006. Three of those cases involve pharmaceutical products, the remaining are about agricultural chemicals or general complains about lack of specific regulations. Pharmaceutical products overall form 5% of EU exports to the world, while only just under 1% to India. However, one has to be careful about drawing the conclusion that this necessarily shows the potential for substantial expansion of exports to India. Pharmaceuticals is a sector where the EU has an RCA equal to 2.5, but at the same time India has an RCA equal to 4.9. Of course, it is entirely plausible and indeed likely that within this their respective comparative advantages lie in different niches, however this would require more careful investigation and knowledge of the industry. The database indicates that the main obstacle to trade in those cases is formed by NTBs where the estimated barrier is equal to 42%, while tariffs are only 15% on average.

Under the category of trade facilitation, there are barriers notified which cover up to about 40% of EU exports to India. This is a substantial figure, and this arises in part because of the reported complaints with regard to the import licensing requirement in particular for second hand machinery. As we cannot identify the relevant trade figures in this category, the figure is largely based on trade in machinery, which is a much larger category. Hence the share of trade here is no doubt over-estimated, nevertheless it seems reasonable to conclude that a substantial share of the EU's trade may be affected. Trade facilitation issues arose in nine cases (seven of which in manufacturing and two of which in services), and mostly consist of machinery and small amount of textiles and automobiles. In the affected sectors we see a positive RCA for the EU in machinery and automobiles, with a correspondingly revealed comparative disadvantage for India. Just over 1% of the share of EU's exports are in textiles and clothing, and this is an area where it is India which has the revealed comparative advantage, as opposed to the EU. We only have an estimated NTB for machinery and automobiles and these are reported at 10% and 19% respectively, while in contrast the reported tariffs are 28% and 53%. Therefore the importance of NTB does not seem to have a big impact on those cases, and the importance of tariffs is relatively much bigger here.

Tariffs are not usually considered as an NTB. However, the issue of tariffs arises in a number of cases. This is where the EU has complained either about additional taxes being imposed, or for example with respect to issues such as lack of transparency. In total there are 18 cases where EU complained about the height of the tariff or its implementation. In total this covers approximately 5% of the EU's exports to India. On average, across these sectors the tariff was equal to 36% while the NTB was absent from all of the cases except marble and spirits imports, where it was equal to 46% and 27% respectively. Interestingly those were the only sectors in which EU had a higher RCA, as well the sectors with highest overall tariffs.

In addition to the above, the EU has complained about unfair competition in 3 cases. In all of them the problem was because of the canalised import policy. These cases cover agricultural products, urea and petroleum and about 0.5% of EU exports to India. The tariffs are equal 25% and estimated NTB are on average 32%. There were also four complaints about NAMA covering just over 1% of the EU's exports. In three cases the complaint was with regard to high export taxes, and in one case with regard to complex and non-transparent system of import duties and taxes.

Overall, the discussion in this section has been very illuminating. In aggregate it appears that a substantial proportion of the EU's exports to India are covered by some form of non-tariff barrier to trade – be this an issue of SPS, TBT or something else. If we include all barriers and all industries the figure is just over 41%. However, as discussed earlier this is no doubt inflated by the inclusion of the general category machinery (where the underlying complaint was with regard to second hand machinery). Hence if one excludes the category machinery, there is approximately 10% of EU exports covered. This is still a substantial figure, and underlines the reasons why the EU is concerned about such NTBs in India. The discussion also showed that in a large proportion of cases, those NTBs are being levied in those industries where the EU has a revealed comparative advantage while India does not.

#### **4.5. Trade driven productivity change**

As indicated above a main indicator of existing deep integration is the degree to which intra industry trade (IIT) is taking place. Equally the rate of growth of IIT is an indicator of the potential for further deep integration. Broadly IIT takes three forms. First is the exchange of similar goods (the same trade heading) of broadly similar qualities and prices (Volkswagens for Citroens). Second is the exchange of similar goods of different qualities and prices (Volkswagens for Rolls Royce). Third is exchange of goods within a trade classification that represents a vertically integrated supply chain (parts for finished or part finished goods). Each of these represent ways in which economic integration can encourage the niche specialisation that can generate the productivity gains that represent the main advantages of deep integration and can compensate for any losses to trade diversion from shallow integration.

Table 4.6 below sets out some comparative figures on IIT for India since 1992, broadly representing the most recent period of economic reform and consequent increased integration with the world economy. Part A of the table shows the Grubel-Lloyd index (GLI) for India, Brazil, China, the EU and the USA with the World and for EU-India<sup>16</sup>. The GLI measures the overlap between the industrial structure of imports and exports (here measured at HS4) between any pair of trading partners. The higher the index the greater the intra Industry trade overlap with an index of 1 representing total overlap. Part B shows the share of trade (measured as imports + exports) in IIT. Essentially this shows

---

<sup>16</sup> We have also undertaken the analysis with the CEPII index of intra-industry trade and the results are highly comparable.

trade in HS 4 Headings where the GLI exceeds 0.15 as a threshold for the existence of IIT in the sector. Parts C and D try to answer the question of how much of the product differentiation is due to the exchange of products of similar qualities (where price would be broadly similar) – horizontal differentiation - and how much would be vertically differentiated IIT where either qualities are very different or international supply chain integration is taking place.

From Part A of Table 4.6 it is clear that IIT in India started a good way behind China and Brazil in 1992 but had caught up and indeed may have overtaken both of them by 2004. All three however lag well behind the US and above all the EU. The high level of overlap in the structure of EU Imports and exports is one of the defining features of European integration from the first studies of the impact of the formation of the EEC in the 1960s. This is partly explained by the inclusion of intra EU trade in the statistics where the high degree of integration reduces information costs and generates increased market size and competition with consequent increased demand for differentiated products as well as huge volumes of cross border investment (intra - EU FDI accounts for almost half of global FDI). The low level of the EU-India GLI confirms the story from the Herfindahl indices and RCA indicators of little direct overlap between Indian and EU trade patterns and competitiveness. On one hand this reinforces the inference that tariff cutting in an EU-India FTA could induce trade diversion losses for India given its high tariffs. The low level of the GLI however underlines the potential for increased IIT especially if TBTs and SPS barriers were reduced as part of the FTA. Even if India's GLI lags the EU and the US, IIT represents more than half of Indian trade in 2004, see Table 4.6 Part B, catching up with Brazil but still a long way behind China. EU-India IIT trade share at 39%, however, is less than India-World (52%) although it has grown much more rapidly since 1992. This suggests once more that EU-India liberalisation could help to boost IIT between them and generate productivity gains with the potential to outstrip any shallow integration losses on goods.

On the question of horizontal versus vertical integration it is noticeable that, the EU apart, vertical differentiation (where prices –measured as unit values - are more than 20% different) greatly exceeds horizontal<sup>17</sup>. This is not surprising in the case of India, China and Brazil since they are likely to export eg low quality apparel and import high quality or to be part of globally or regionally integrated supply chains. It is, equally, not surprising that the EU is the exception where horizontal differentiation exceeds vertical, because it represents the most integrated market of national economies at broadly similar level of development in the world where the cross hauling of differentiated but similar goods of equivalent qualities is likely. The share of EU horizontally differentiated IIT has fallen and vertical has risen since 1992 perhaps representing the integration of Central Europe into the EU economy (even ahead of accession) and perhaps some supply chain integration outside Europe.

---

<sup>17</sup> Horizontal plus vertical does not add to 100% because there are trade categories where it is not possible to calculate unit values.

That said the share of horizontally differentiated trade grew faster than vertical in India between 1992 and 2004 perhaps representing improved quality of Indian goods. China however has the share of vertically differentiated trade grow faster perhaps reflecting the development of cross border supply chains in East Asia.

EU trade with India is predominantly vertically differentiated and while the share of horizontally differentiated trade has grown faster it is still at a very low level. Once more this suggests that there is potential for preferential liberalisation towards the EU to generate productivity-increasing specialisation particularly on vertically differentiated trade.

**Table 4.6: Comparative Indicators of Intra Industry Trade 1992 - 2004**

<b>A. Grubel Lloyd Index</b>						
<b>HS4</b>						
<i>Year</i>	<b>India with World</b>	<b>China with World</b>	<b>Brazil with World</b>	<b>EU with World</b>	<b>USA with World</b>	<b>EU with India</b>
1992	0.264	0.353	0.343	0.742	0.529	0.104
1996	0.305	0.365	0.345	0.779	0.547	0.167
2000	0.355	0.362	0.352	0.783	0.540	0.197
2004	0.388	0.369	0.370	0.783	0.534	0.219

<b>B. IIT as Share of Trade</b>						
<b>HS 4</b>						
<i>Year</i>	<b>India with World</b>	<b>China with World</b>	<b>Brazil with World</b>	<b>EU with World</b>	<b>USA with World</b>	<b>EU with India</b>
1992	43%	52%	47%	97%	86%	19%
1996	47%	55%	57%	99%	88%	31%
2000	45%	62%	61%	100%	88%	37%
2004	52%	68%	57%	100%	84%	39%

<b>C. Share of IIT Horizontally differentiated</b>						
<b>HS 4</b>						
<i>Year</i>	<b>India with World</b>	<b>China with World</b>	<b>Brazil with World</b>	<b>EU with World</b>	<b>USA with World</b>	<b>EU with India</b>
1992	3%	12%	11%	65%	21%	1%
1996	6%	15%	17%	71%	13%	3%
2000	7%	13%	14%	63%	12%	4%
2004	16%	17%	11%	62%	24%	4%

<b>D. Share of IIT Vertically differentiated</b>						
<b>HS 4</b>						
<i>Year</i>	<b>India with World</b>	<b>China with World</b>	<b>Brazil with World</b>	<b>EU with World</b>	<b>USA with World</b>	<b>EU with India</b>
1992	18%	29%	35%	31%	36%	8%
1996	31%	39%	40%	26%	52%	14%
2000	26%	48%	47%	35%	48%	19%
2004	35%	51%	45%	37%	34%	18%

Source: Own Calculations

**Table 4.7: Indian cumulative FDI Inflows 2003-2006 and GLI India-World 2004**

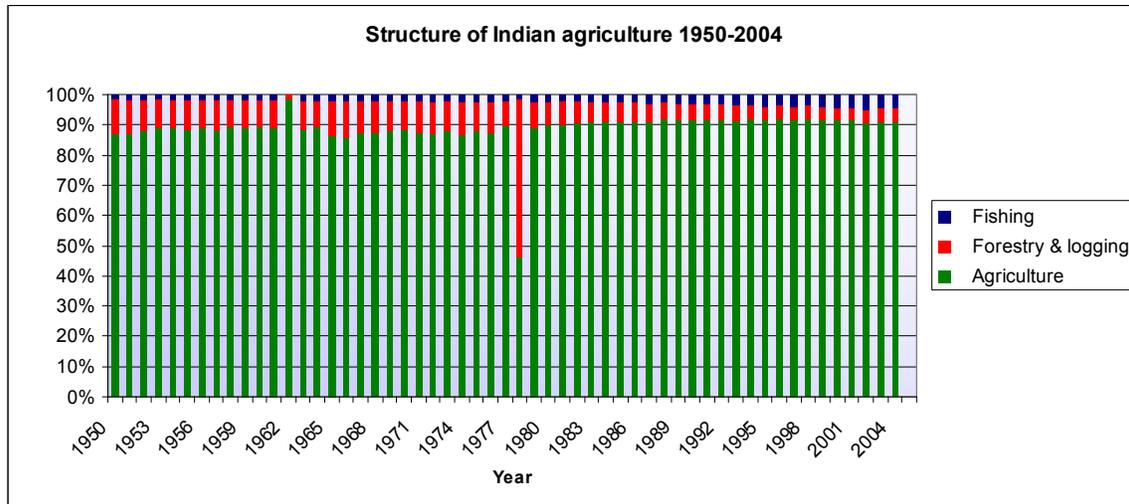
	HS codes	share of Indian FDI inflows 2003-2006	GLI 2004
Electrical equipment	85	27%	0.45
Transportation industry	87-89	14%	0.45
Fuels	27	5%	0.27
Chemicals	28-29	7%	0.46
Food processing industries	16-24	3%	0.32
Drugs and Pharmaceutical	30	7%	0.49
Cement gypsum products	25	6%	0.36
Metallurgical industries	72-81	5%	0.32
FDI share- GLI correlation			0.504198

Source: Own Calculations

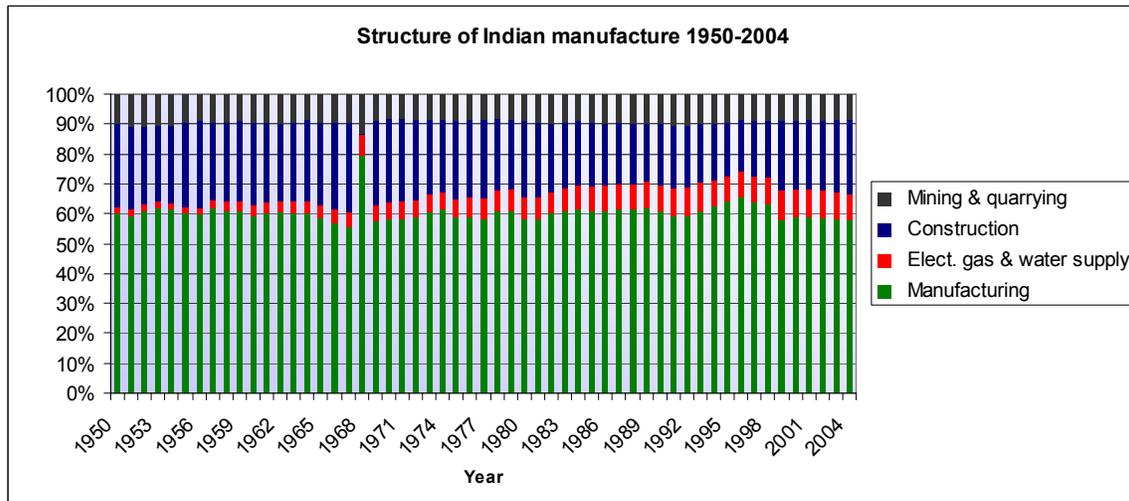
Both section 4.1 and Annex 2 deal with FDI in detail. It is important however to note that FDI is an important channel for productivity enhancing deep integration via both technology and know-how transfer, quality improvement and specialisation. These are all issues that should be captured in the Grubel-Lloyd index. Table 4.7 attempts a rough alignment of the sectoral shares of cumulative inflows of FDI into India between 2002/3 and 2005/6 and compares them with HS2 GLI (calculated at HS4 level and aggregated). These are positively correlated, which suggests, if no more, that FDI and IIT are connected and that FTA led trade liberalisation and investment promotion may increase IIT, FDI and productivity.

## 5. Appendix – Additional Figures and Tables

**Figure 5.1: Structure of Indian Agriculture 1950-2004**



**Figure 5.2: Structure of Indian Manufacture 1950-2004**



**Table 5.1: Tariff Peaks on Indian exports to India**

Cat. (HS2)	No. Prod. Cat.	Av. Tariff in Cat.	Peaks	Av. Tariff in Peaks
29	256	2.05	43	5.08
85	260	0.90	34	4.85
84	375	0.06	28	0.92
73	113	0.33	25	1.51
90	137	0.37	23	2.05
28	103	1.03	16	3.66
87	55	2.33	14	7.19
38	43	1.19	13	3.84
40	73	0.32	11	2.07
70	59	1.97	11	6.85
39	98	2.57	9	5.59
44	38	1.00	9	4.20
82	66	0.32	9	2.33
9	29	0.66	8	2.38
32	44	1.99	7	4.95
41	27	1.31	7	2.94
94	37	0.11	7	0.59
8	26	3.51	6	10.22
91	34	0.81	6	2.29
95	39	0.10	6	0.68
12	30	0.32	5	1.93
37	19	0.88	5	3.33
53	24	2.41	5	7.34
15	22	2.26	4	5.46
74	48	0.71	4	2.06
81	17	1.97	4	4.51
23	12	0.33	3	4.37
31	7	1.47	3	3.00
34	19	0.21	3	1.77
69	28	2.02	3	6.98
72	93	0.08	3	2.08
96	49	0.08	3	1.28
3	37	6.69	2	14.23
22	15	0.81	2	6.10
42	21	2.60	2	7.17
43	6	1.53	2	3.45
50	9	2.65	2	5.67
71	46	0.01	2	0.95
83	36	0.06	2	1.13
4	7	4.25	1	17.30
5	13	0.00	1	1.60
6	10	3.55	1	8.25
7	36	5.73	1	14.02
13	10	0.15	1	1.50
19	14	2.35	1	14.10
21	12	5.74	1	12.80
24	8	21.61	1	52.40
25	47	0.02	1	0.85

27	13	0.02	1	0.21
33	35	0.10	1	3.50
35	11	2.14	1	4.33
46	5	0.32	1	1.20
65	8	0.00	1	1.20
68	41	0.02	1	0.90
75	8	0.00	1	6.00
78	5	1.08	1	2.50
80	5	0.00	1	2.10
89	8	0.00	1	0.97
92	21	0.00	1	3.20
Total	2767		371	

**Table 5.2: Indian Tariff structure and average tariffs 1998-2002**

	Number of Lines	MFN1997/1998			MFN2001/02		
		Average (%)	Range (%)	Coefficient of Variation	Average (%)	Range (%)	Coefficient of Variation
<b>Total</b>	5,113	35.3	0-260	0.4	32.3	0-210	0.4
<b>By WTO Definition</b>							
Agricultural Products	676	35.1	0-260	0.9	40.7	0-210	0.7
Live animals and Products thereof	81	25.4	15-45	0.6	39.8	35-100	0.4
Dairy Products	20	31.5	0-35	0.3	38.0	35-60	0.2
Coffee and Tea, Cocoa, sugar etc.	128	37.6	15-192	0.4	39.6	35-170	0.4
Cut flowers and plants	34	25.1	10-45	0.6	29.9	10-35	0.3
Fruits and vegetables	150	32.7	0-127	0.5	36.6	25-115	0.3
Grains	16	0.0	0-0	-	49.4	0-100	0.8
Oil seeds, fats, oil and their products	71	38.9	15-45	0.2	56.2	15-100	0.5
Beverages and sprits	31	114.8	15-260	0.8	96.9	35-210	0.8
Tobacco	9	45.0	45-45	-	35.0	35-35	-
Other agricultural products, n.e.s.	136	27.8	0-45	0.5	28.1	0-50	0.4
Non- agricultural products (excl. petroleum)	4,435	35.4	0-192	0.3	31.1	0-170	0.3
Fish and Fishery products	108	20.3	0-65	0.6	35.0	35-35	-
Mineral products, precious stones, etc.	335	37.5	0-45	0.3	30.6	0-55	0.3
Metals	588	32.5	10-45	0.2	32.0	5-35	0.2
Chemicals and photo graphics supplies	840	34.6	0-192	0.2	33.8	0-170	0.2
Leather, rubber, footwear, travel goods	146	39.8	0-45	0.3	32.1	0-35	0.2
Wood, pulp, paper and furniture	248	30.1	0-45	0.4	29.3	0-35	0.4
Textiles and Clothing	830	43.7	25-55	0.1	31.3	15-35	0.2
Transport Equipment	122	41.7	3-45	0.2	40.5	3-105	0.6
Non-electric machinery	525	27.1	10-45	0.2	25.9	0-35	0.2
Electric machinery	257	34.7	15-45	0.3	26.8	0-35	0.4
Non- agricultural	436	37.1	0-55	0.2	30.0	0-35	0.2

products, n.e.s							
Petroleum	2	31.0	37-35	0.2	25.0	15-35	0.6
By Sector*							
Agriculture and fisheries	289	26.5	0-45	0.6	33.1	0-100	0.4
Mining	105	26.2	0-45	0.5	21.9	5-55	0.5
Manufacturing	4,718	36.1	0-260	0.4	32.5	0-210	0.4
By stage of processing							
First stage of Processing	628	25.7	0-127	0.6	29.4	0-115	0.5
Semi- processed products	1,673	35.7	0-192	0.2	32.3	0-170	0.2
Fully- processed products	2,812	37.3	0-260	0.4	33.0	0-210	0.5

Notes: \*ISIS (Rev.2) classification. Electricity, gas and water are excluded (1 tariff line)

Source: Source: Adopted from Arvind Panagariya, "India's Trade Reform: Progress, Impact and Future Strategy"; March 4, 2004, Table 1. Mimeo.

**Table 5.3: Indian NTB Peaks (WTO database)**

Cat. (HS2)	No. Prod. Cat.	Av. NTB in Cat.	No of peaks	Av. NTB in Peaks	Av. Tariff
64	27	0.443075	4	2.068687	15
41	29	0	1	2.052787	11.47059
45	6	0.327398	1	1.838492	15
8	44	0.307626	6	1.68848	31.05263
4	21	0.449159	4	1.554612	34.5
16	23	0.654495	1	1.341345	41.66667
67	6	0.477246	1	1.254807	15
30	28	0.186467	4	1.233932	14.46429
93	17	0.150926	2	1.176075	15
3	77	0.40736	17	1.172419	30
17	14	0.221648	2	1.167543	46.07143
42	19	0.411584	3	1.166723	15.71429
61	112	0.359502	22	1.166227	15
52	121	0.095702	9	1.157481	14.93902
89	17	0.223544	3	1.155937	15
94	37	0.392109	8	1.119419	15
2	38	0.320447	7	1.116117	30
22	17	0.275169	3	1.10543	111.2381
5	10	0.127535	1	1.104782	30
26	19	0.400678	4	1.071243	6.333333
6	10	0.116756	1	1.056694	21.66667
10	12	0.441261	3	1.051813	0
81	36	0.294462	9	1.026683	15
33	33	0.332656	7	1.026318	23.42857
31	25	0.301875	5	1.025323	9.0625
1	13	0.417935	3	1.023716	30
82	62	0.31752	10	1.005953	15
58	38	0.176657	5	0.998318	15
65	6	0.453682	1	0.994609	15
32	40	0.219273	7	0.994498	15
23	21	0.297088	3	0.960369	30
95	43	0.167866	7	0.948444	15
13	12	0.078956	1	0.944544	30
66	6	0.258042	1	0.92206	15
63	55	0.21187	10	0.921918	15
27	32	0.267308	7	0.916748	13.75
7	52	0.271179	10	0.913833	35
21	13	0.282737	4	0.912771	39.28571
44	45	0.040482	2	0.910506	13.51852
87	76	0.283437	21	0.892846	34.05172
96	50	0.328791	12	0.889912	15
56	23	0.07638	2	0.85936	15
69	25	0.257636	6	0.855503	15
9	28	0.181115	3	0.850437	56

75	15	0	1	0.846964	15
19	15	0.25131	4	0.83251	33.125
76	32	0.052061	1	0.812976	15
62	118	0.247269	28	0.806886	15
48	104	0.191297	22	0.77787	15
68	49	0.094433	5	0.77562	15
88	14	0.238567	4	0.763266	10
14	9	0.184923	2	0.75972	30
53	30	0.076871	3	0.739375	18.52941
20	43	0.177328	9	0.729992	30.46875
12	36	0.191096	8	0.722347	25
83	36	0.207937	8	0.720498	15
85	233	0.145294	44	0.686465	12.14286
37	35	0.061465	3	0.672703	15
90	144	0.045788	10	0.659316	13.3758
38	37	0.072628	4	0.644742	16.89516
84	481	0.061696	44	0.639506	14.39175
15	38	0.187335	9	0.633242	51.05263
35	10	0.202321	3	0.618339	26.07143
39	118	0.102254	19	0.602779	15
73	115	0.126928	22	0.601518	15
29	279	0.028048	13	0.59959	15.0817
49	13	0.091839	2	0.596957	10.58824
34	21	0.211039	6	0.563342	15
11	32	0.1517	6	0.557996	32.94118
70	46	0.113701	9	0.550284	15
43	15	0.108418	3	0.542092	12
54	63	0.038842	4	0.536746	15
40	59	0.109791	10	0.511954	15.82895
28	170	0.035243	12	0.499283	14.87421
25	63	0.053124	8	0.407729	15
91	54	0.111866	14	0.379615	15
71	50	0.07503	8	0.349634	15
50	5	0.065177	1	0.30609	15
59	20	0.065225	4	0.291253	15
18	7	0	1	0.259023	30
55	113	0.030809	12	0.230021	17.19512
57	22	0.023816	2	0.214803	15
74	56	0.007063	2	0.197774	15
72	116	0.002377	2	0.137862	20
24	9	0.022794	2	0.093118	30
60	18	0.015214	3	0.04072	15
51	33	0.003329	5	0.01878	15.60345
36	4	0.175995	0		15
46	6	0.639743	0		15
47	16	0	0		7.352941
78	10	0	0		15

79	9	0	0	15	
80	7	0	0	15	
86	24	0	0	15	
92	23	0	0	15	
97	7	0	0	11.25	
Average	47.08333	0.181309	6.510417	0.833874	20.22899

Source: Kee, Nicita, and Olarreaga, WTO, 2005.

## 6. References

- Ahluwalia, Isher J. 1991. *Productivity and Growth in Indian Manufacturing*, Delhi: Oxford University Press.
- Balakrishnan, P., and K. Pushpangandan. 1994. "Total Factor Productivity Growth in Manufacturing Industry: A Fresh Look." *Economic and Political Weekly*, July 30, 2028-2035
- Balassa, Bela. (1979) "The Changing Pattern of Comparative Advantage in Manufactured Goods." *Review of Economics and Statistics*, 61, pp. 259-66.
- \_\_\_\_\_. (1986) "Comparative Advantage in Manufactured Goods: A Reappraisal." *Review of Economics and Statistics*, 68, pp. 315-19.
- \_\_\_\_\_. (1965) "Traded Liberalization and 'Revealed' Comparative Advantage." *The Manchester School of Economic and Social Studies*, 33, pp. 99-123.
- Baldwin, R. (1970). *Non-tariff Distortions of International Trade*, Brookings Institution, Washington D.C.
- Bhagwati Jagdish, T N Srinivasan, *Foreign Trade Regimes and Economic Development: India*, 1976
- Burfisher, Mary E., Sherman Robinson, and Karen Thierfelder (2004), 'Regionalism: Old and New, Theory and Practice', MTID Discussion Paper No. 65 (Markets, Trade and Institutions Division, International Food Policy Research Institute).
- Cernat, Lucian *Assessing Regional Trade Arrangements: Are South-South RTAs More Trade Diverting? UNCTAD Policy Issues in International Trade and Commodities Study Series* 16
- Chadha, Rajesh, Alan Deardorff, Sanjib Pohit and Robert Stern. 1998. *The Impact of Trade and Domestic Policy Reforms in India: A CGE Modeling Approach*. Ann Arbor: University of Michigan Press
- Chand, Satish and Kunal Sen. 2002. "Trade Liberalization and Productivity Growth: Evidence from Indian Manufacturing." *Review of Development Economics* 6(1): 120-132
- Chen, M.X. and A. Mattoo, (2004), "Regionalism in Standards: Good or Bad for Trade?", World Bank Working Paper No.3458
- CUTS-International: *Trade Policy Making in India- The Reality below the water line*, Monograph #0415, ISBN:81-8257-031-X
- CUTS-International: *Trade Remedial Measures*, Monograph#0426, ISBN:81-8257-043-3
- DeLong, J. Bradford, 2001, "India Since Independence: An analytic Growth Narrative," in Dani Rodrik, ed., *Modern Economic Growth: Analytical Country Studies* (forthcoming).

- Dholakia, B.H., and R.H. Dholakia, 1994. “ Total Factor Productivity Growth in Manufacturing Industry.’ *Economic and Political Weekly*, December 31,3342-3344
- Dornelas, J.C., Nunes M.V., Oliveira Jr O. (2001). Bridging the Gap Between Technological Innovation and Effective Transfer of Technology, Working Paper Economic Survey, Government of India, 2005-06 and various previous years.
- Evans, D., Gasiorek, H., Holmes, P., Robinson, S., and Rollo, J., (2006), “Assessing Region Trade Agreement with Developing Countries: Shallow and Deep Integration, Trade, Productivity and Economic Performance” Report for DFID.
- Fontaine, L, Freudenberg, M., and Gaulier, G, (2005), “Disentangling Horizontal and Vertical Intra-Industry Trade“, CEPII discussion paper, No 2005-10.
- Fontaine, L, Freudenberg, M., (1997), “Intra-Industry Trade: Methodological issues reconsidered“, CEPII discussion paper, No 1997-01.
- Gasiorek, M et.al (2006), “The impact of the EPAs of the Cotonou Agreement on trade, production and poverty alleviation in the Caribbean region”. Research project directed by myself with Prof. Alan Winters, and Dr. J.Litchfield. DFID funded project, managed by the Emerging Markets Group.
- Gasiorek, Michael and L. Alan Winters. (2004) “What Role for the Epas in the Caribbean?” *The World Economy*, 27(9).
- Grubel, L. and P. Lloyd. (1975) *Intra-Industry Trade: The Theory and Measurement of International Trade in Differentiated Products*. London: Macmillan.
- Gullstrand, J. (2001) “Does the Measurement of Intra-Industry Trade Matter?” Working Paper, Department of Economics, Lund.
- Hooker, N.H., Caswell J. (1999). “A Framework for Evaluating Non-Tariff Barriers to Trade Related To Sanitary and Phytosanitary Regulation”, *Journal of Agricultural Economics*, 2, pp.234-246
- Iacovone, L. [Analysis and Impact of Sanitary and Phytosanitary Measures](http://www.cid.harvard.edu/cidtrade/Papers/iacovone.pdf)  
[www.cid.harvard.edu/cidtrade/Papers/iacovone.pdf](http://www.cid.harvard.edu/cidtrade/Papers/iacovone.pdf)
- Iapadre, Lelio. (2004) “Regional Integration Agreements and the Geography of World Trade: Measurement Problems and Empirical Evidence.” *UNU-CRIS e-Working Papers*, W-2004/3.
- Kohli Atul, *Politics of Economic Growth in India, 1980-2005*, EPW, April1, 2006.
- Maskus, K.E., Wilson J.S. (2000). Quantifying the Impact of Technical Barriers to Trade: A review of Past attempts and the New Policy Context, Paper prepared for the Workshop on “Quantifying the Trade Effect of Standards and Regulatory Barriers: Is It Possible?” holding at the World Bank on Thursday, April 27, 2000.
- Mattoo, A. (2001). Discriminatory Consequences of Non-Discriminatory Standards, *Journal of Economic Integration*, March.
- Panagariya A, “India’s Trade Reforms: Progress, Impact and Future Strategy” mimeo, March 4,2004.

- Panagariya, A.2004. “*India in the 1980s and 1990s: A Triumph of Reforms.*” IMF Working Paper WP/XX/04
- Panagariya, A. (2000). "Preferential Trade Liberalization: The Traditional Theory and New Developments." *Journal of Economic Literature* 38(2): 287-331.
- P. C.Alexander Committee on *Import Export Policies & Procedures*, 1978, Ministry of Commerce, Government of India.
- Pursell.Garry.1992 “ Trade Policy in India.’ In Dominick Salvatore, ed., *National Trade Policies*, New York: Greenwood Press: 423-458.
- Saggi, A. J. (2000) “Trade, Foreign Direct Investment, and International Technology Transfer: A Survey.” World Bank Working Paper 2349.
- Stephenson, S. (1997). Standards Conformity Assessment and Developing Countries, World Bank, <http://econ.worldbank.org/docs/398.pdf>
- World Bank (2001). Standards, Developing Countries, and The Global Trade System, Ch. 3 from the “Global Economic Prospects”
- World Bank, (2005) *Global Economic Prospects, 2005: Trade, Regionalism, and Development*. Washington: World Bank.

## **6.1. Links to relevant trade bodies**

<http://rubberboard.org.in/>  
<http://www.indiacoffee.org/>  
<http://www.indiateaportal.com>  
<http://www.indiantobacco.com/>  
<http://www.indianspices.com>  
<http://www.eicindia.org>  
<http://www.iift.edu>  
<http://www.iip-in.com>  
<http://www.mpeda.com>  
<http://www.apeda.com>  
<http://www.eepcindia.org>  
<http://www.projectexports.com/>  
<http://www.chemexcil.gov.in>  
<http://www.capexil.com>  
<http://www.leatherindia.org>  
<http://www.sportsgoodsindia.org/>  
<http://gjepec.org>  
<http://www.shellacepc.com>  
<http://www.cashewindia.org>  
<http://www.plexcon.org>  
<http://eouindia.com>  
[www.pharmexcil.com](http://www.pharmexcil.com)  
<http://www.aepc.com>  
<http://www.indiancarpets.com>  
<http://www.texprocil.com>  
<http://www.epcd.com>  
<http://www.hepcindia.com>  
<http://www.silkepc.com>  
<http://www.pdexcil.org>  
<http://www.synthetictextiles.org>  
<http://www.wwepc.org>  
<http://www.fieo.com>  
<http://www.diamondinstitute.net/>  
<http://www.ncti-india.com>  
<http://www.eanindia.com>  
<http://www.stc.gov.in>  
<http://www.stcl.india.com>  
<http://www.mmtclimited.org>  
<http://www.peclimited.com/>  
<http://www.ecgcindia.com>  
<http://www.indiatradepromotion.org>  
<http://www.dgciskol.nic.in/>

<http://interstatecouncil.nic.in/CHAPTER1.htm>  
<http://tc.nic.in/>