FINAL REPORT

Logistics Services under Indo-EU TIA

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Abbreviations

CAGR	Compound Annual Growth Rate
CONCOR	Container Corporation of India
CECA	Comprehensive Economic Co-operation Agreement
CPC	Central Product Classification
CpC	Certificate of Professional Competence
CRIS	Center for Railway Information System
CSI	Coalition of Service Industries
CTS	Council for Trade in Services
CWC	Central Warehousing Corporation
EC	European Commission
EU	European Union
ECSA	European Community Ship-owners Association
FMCG	Fast Moving Consumer Goods
FTA	Free Trade Agreement
GATS	General Agreement on Trade in Services
GDP	Gross Domestic Product
GRT	Gross Registered Tonnage
JNPT	Jawaharlal Nehru Port Trust
ICT	Information and Communication Technology
INSA	Indian National Ship-owners Association
IMO	International Maritime Organization
IRCON	Indian Railway Construction
ISPS	International Ship and Port Facility Security
LPI	Logistic Performance Index
NCR	National Capital Region
NHAI	National Highway Authority of India
MNC	Multi National Corporation
MMS	Maritime Modal Schedule
MRTH	Ministry of Road Transport & Highways
MTG	Multimodal Transport of Goods
RITES	Rail Indian Technical and Economic Service
RCC	Road Construction Content
SME	Small and Medium Enterprises
CWC	Central Warehousing Corporations
VAT	Value Added Tax
WMS	Warehouse Management Systems
WTO	World Trade Organization
UAE	United Arab Emirates
UK	United Kingdom
UNCTAD	United Nations Conference on Trade and Development
UNEDIFACT	United Nations Electronic Data Inter Change for Administration, Commerce and Transport
US	United States

Logistics Services under Indo-EU TIA

Section 1: Introduction

Logistics represents a new, fast-growing, and promising sector of the services industry. Logistics is a multidimensional activity and includes elements of production, location, time and control of the supply chain. Worldwide logistics expenditures represent 10-15% of the total world GDP. The global logistics industry was valued at US$3.5 trillion in 2005[1] and has been experiencing rapid changes due to greater integration of global production networks, use of just-in-time production requirements, containerization and technological advances. Globalization has necessitated efficient and cost-effective logistic services networks, which has given rise to changes in the structure of the global logistics industry. Service providers, such as truckers and shipping lines, are transforming from transporting only cargo into integrated haulers and logistics solution providers. The market for logistics services now include e-logistics, outsourcing (contract logistics), third-party logistics, fourth-party logistics and reverse logistics.[2] The increasing importance of the Internet and ICT as business tools has allowed for faster and more accurate logistics information and outsourcing of functions such as order management, warehousing, packaging and customer support.

The Indian logistics market was valued at around US$73 billion in 2006. The share of the organized logistics outsourcing industry is 6% and is projected to witness 25% CAGR over the period FY06 – FY11.[3] The demand for logistics services has been largely driven by the growth of the manufacturing and retail sectors. This growth is expected to continue as multinational companies continue to set up manufacturing operations in India and large retailers such as RPG and Big Bazaar expand to smaller cities. While many major global logistics companies such as APL Logistics, Panalpina, and Maersk Logistics have been operating in India for some time, domestic companies are not far behind. Indian companies are increasingly entering the outsourced logistics market, and are expanding their range of activities to include added-value services and customized supply chain management solutions. A survey by the Transport Corporation of India (TCI) and the Management Development Institute (MDI) shows that e-logistics is a growing segment. More than 47% of the 130 companies surveyed felt that integrating IT systems with traditional logistics services was important. About 57% of the companies plan to outsource reverse logistics within the next five years, while 54% plan to outsource inventory management and 53% order processing.[4] Container Corporation of India (Concor), the largest listed firm in logistics in India (valued at US$380 million), is diversifying into new areas. Other Indian companies like Gati, XPS and Safexpress, are expanding to the UAE, Sri Lanka, Singapore and Bangladesh as well as into new areas like modern warehousing.

Logistics services also hold a significant place in the European Union. The EU is a world leader in the provision of logistics services with six of the global top ten third-

[1] Source- http://www.cygnusindia.com/pdfs/Surface%20Tansport-TOC.pdf
[2] UNCTAD (2006).
[3] Source: PricewaterhouseCoopers, Retail, Franchising and Logistics, US-India Business Summit, 2006.
[4] EFT Research (2005).

party logistics (3PL) companies being from the EU.[5] Annual logistics expenditure in Europe is estimated to be approximately €1 trillion. The continuous enlargement of the Union has had a significant impact on the EU logistics industry as several of the accession countries already represent important hubs of overall European supply chains. Both manufacturers and retailers are embracing opportunities offered in these countries since they come within the EU customs union, and goods entering them will be transported to the rest of the EU without further customs controls. The removal of barriers to the cross-border movement of goods and workers, and the growing interest in integrating the supply chain on a global scale has led EU Member States to develop common rules for cross-border cooperation, transparency and standards in support of an integrated logistics system in the Union.

Although logistics services play a crucial role in modern economies such as India and the EU, it is not clearly defined in negotiations due to its broad coverage and relative newness in trade negotiations. A key component of logistic services is transportation services. Transport is subject to many domestic regulations that prohibit competition or limit access to facilities, such as railways and ports. Impediments also exist in customs clearance procedures, labor restrictions, and licensing procedures where inefficient procedures delay logistics processes and increase costs. Some of these impediments may be addressed unilaterally by transportation sector liberalization or through multilateral, regional, or bilateral trade negotiations. With the WTO (World Trade Organization) negotiations proceeding at a slow pace, a trade and investment agreement between India and the EU could substantially strengthen trade links in the logistics sectors of the two regions.

Objectives and Structure

The aim of this study is to examine the prospects of liberalizing trade in logistics services between India and EU Member States and recommend strategies for the Indian government in its negotiations in this sector in the context of a trade and investment agreement with the EU. Other objectives of this study are: (a) to identify barriers related to market access, national treatment and domestic regulations in the provision of logistics services in India and the EU, (b) to analyze unilateral liberalization, and the bilateral and multilateral commitments of India and the EU in logistics segments, and (c) to suggest domestic reforms and measures to strengthen the global competitiveness of the logistics sector.

The study consists of eight sections. Section 2 outlines the scope of the study, with details of the sub-segments and CPC codes of logistics services covered in the study. Sections 3 and 4 provide a broad overview of the logistics industry in the EU and in India, emphasizing recent trends and developments in this sector. Section 3 also identifies specific Member States in the EU that dominate trade in this sector. Sections 5 and 6 discuss the volume of trade and barriers to trade in logistics in the EU and India. While Section 5 examines the size of the current and potential future trade opportunities in the two countries, Section 6 summarizes regulatory and market access barriers faced by Indian and EU companies in each other's markets. Section 7

[5] The top ten include Exel (UK), Kuehne & Nagel International AG (Switzerland), Schenker (Germany) DHL Danzas Air & Ocean North America (Germany), P&O Nedlloyd (UK & Netherlands), TPG/TNT (Netherlands), Panalpina (Switzerland), UPS Supply Chain Solutions (US), Nippon Express (UK) and C.H. Robinson Worldwide (US). Source: UNCTAD (2006).

analyzes the extent of liberalization by India and EU in unilateral, bilateral and multilateral initiatives taken by both countries. Section 8 presents India's negotiating strategies to liberalize trade in logistics services for a possible TIA with the EU; this section outlines the nature of commitments that India should demand of the EU as well as what India can offer in this sector. Section 9 discusses reforms required in India in freight infrastructure and other areas to make this sector internationally competitive and gain from opportunities of trade liberalization.

Section 2: Coverage of Logistics Services

Logistics comprises an extensive range of services and consequently several working groups have suggested different definitions of logistics services. For instance, the Coalition of Service Industries (CSI) defines logistics as "the process of planning, implementing, managing and controlling the flow and storage of goods, services and related information from the point of origin to the point of consumption". UNCTAD (2006) states that logistics is "the management of global supply chains".[6] Logistics services are not clearly defined in the Services Sectoral Classification List (W/120) used by WTO Members in services negotiations, and logistics or supply-chain management is not identified as a distinct industry in the W/120.[7] Different countries have different views on the scope of the logistics sector and key services to be liberalized. In the absence of a distinct listing, some countries have used a checklist approach[8] to negotiate logistic and related services in the WTO. The checklist divides logistics-related services into three categories: core freight logistic services, related freight logistic services, and non-core freight logistic services. The scope of the study is described in terms of the proposed logistics checklist to cover all services that are crucial for the efficient supply of integrated logistics services; following the checklist would also facilitate bilateral and GATS discussions in logistics.

The services included in our study on logistic services are therefore categorized into three groups. Group I consists of core freight logistics services, which are defined as services essential to logistics operations. These services are covered in WTO negotiations under *Services auxiliary to all means of transport*. The sub-categories in this group consist of:

- Cargo Handling Services (CPC 7411, CPC 7419)
- Storage and Warehousing Services (CPC 742)
- Transport Agency Services (CPC 748)
- Other Auxiliary Services (CPC 749)

Group II consists of freight transport services, which are defined as transportation services that are integral to logistic operations. These services are covered in WTO negotiations under *Transport Services*. The sub-categories in this group consist of:

- Road freight transport services (CPC 7123)

[6] UNCTAD (2006), "Managing the request-offer negotiations under the GATS: logistics services"

[7] When scheduling GATS commitments, WTO members generally use the Services Sectoral Classification List (W/120) as a guide. The W/120 document is based on the U.N. Provisional Central Product Classification (CPC) system.

[8] The checklist has been compiled by members from UNCPC. For more details, refer to Section 7.1 of this paper.

- Rail freight transport services (CPC 7112)
- Maritime transport services (Services identified under maritime transport negotiations)

Analysis of air freight transport and internal waterways services are not included in the study.[9]

Group III consists of related logistics services, which are defined as services desirable to build an enabling environment for logistics services. The sub-categories in this group consist of:

- Management Consulting and related Services (CPC 865)

Postal and courier services and distribution services (wholesale trade, retail, and commission agent services) are not included in the scope of the logistics study.[10] However, the study will examine the provision of technical and consultancy services related to transport and logistics, since such services are recognized to be particularly relevant for Mode 4 in logistics for India. The European Commission (EC) defines logistics as the planning, organization, management, execution and control of freight transport operations.[11] It gives considerable importance to the integration of individual transport modes and door-to-door supply chains. The EC in its communication relating to all transport services has made specific reference to services that form part of the logistics core activities. The EC has also suggested that a more horizontal approach be developed for some auxiliary services, in particular areas such as warehousing and freight forwarding.[12] For maritime transport services, the EC suggests that international maritime transport service suppliers be granted the right to undertake locally all activities which are necessary for the supply to their customers of a partially or fully integrated transport service, within which the maritime transport constitutes a substantial element.

Appendix A lists the logistics sub-segments, with their respective CPC codes and W/120 classification included in this study on logistic services.[13]

Section 3: Overview of the EU Logistics Market

Logistics services have increasingly become more important in Europe. The European Union is moving towards a single market and has adopted several regulations and directives to create a well-integrated market in logistics. The growth in trade with the countries of Central and Eastern Europe and the increase in freight traffic have made

[9] This is in accordance with the plurilateral request on logistics services, which excludes air transport and internal waterways transport services from the coverage of logistics services. Maritime services are also excluded from the plurilateral request, but included in this study due to the importance of the maritime sector for India and EU trade. Air freight is analyzed only as far as it relates to the provision of integrated logistics services.

[10] These services are covered by other dedicated studies for Indo-EU TIA.

[11] http://ec.europa.eu/transport/logistics/index_en.htm

[12] GATS 2000: Transport Services, Communication from the European Communities and their Member States, S/CSS/W/41.

[13] The 1989 Provisional Central Product Classification (CPC Prov) was used as a source by the Secretariat of the General Agreement on Tariffs and Trade in the negotiations of the General Agreement on Trade in Services (GATS) concluded in 1994.

the creation of an intermodal transport system of primary importance in the EU. The logistics percentage of GDP in Europe grew from 12.2% in 1998 to 13.3% in 2002.[14] The EU is also one of the leading providers of transport services, equipment and technology; EU companies control 30% of worldwide air transport and 40% of the maritime fleet, while transport equipment accounts for 16% of EU exports.

The evolution in logistics and freight transport has, however, put a strain on infrastructures in the European Union. The visible signs of this are congestion on parts of the European transport system, including many of its roads, rail links and harbors. These costs are estimated to be as high as 1 to 1.5% of GDP and are likely to increase substantially in the years to come.[15] Europe is also in the process of restructuring its transport policy. In 2001 a White Paper entitled *European Transport Policy for 2010: Time to Decide* was launched by the Commission, which proposed 60 measures to streamline the EU's transport policy, with the intent of creating a more sustainable and less congested system.[16] In 2007, as per the recommendations of the White Paper, the European Commission (EC) launched an action plan on logistics which proposes more than 30 actions to be implemented over the coming years. Some of the proposed actions include simplification of administrative processes, review of loading standards and lower transit times, and increasing reliability in rail freight.[17] Appendix B lists all important EU directives affecting transport and logistics.

3.1 Road

Road is the most popular means of transport in the EU with 44% of freight being carried by road. The EC has about 58,000 km of motorways with Germany, France, and Spain accounting for almost 60% of the total.[18] Cabotage in the movement of road freight was liberalized in 1998. Road cabotage transport is governed by Council Regulation No. 3118/93 which lays down the conditions under which non-resident carriers may operate national road haulage services within a Member State. Road transport is governed by a number of other council regulations, which include Council Regulation 3820/85 (common rules on the minimum age of drivers, driving times, breaks and rest periods for drivers), Council Directive 93/104/EC (the Working Time Directive), Council Directive 96/71/EC (the Posting of Workers Directive) and Council Directive 2002/15/EC (organization of working time). Road cabotage is most popular in relatively large countries and four countries represented 80 % of the

[14] During the same period, logistics expenditure in North America has gone down from 11% to 9.9%. European Commission (2006), *Consultation document on logistics for promoting freight intermodality.*

[15] http://www.europarl.europa.eu/news/expert/infopress_page/062-23418-070-03-11-91020080307IPR23284-10-03-2008-2008-false/default_en.htm,

[16] The Marco Polo and Galileo programs are two key measures that resulted from the White Paper. Some of the objectives of Marco Polo are to reduce road congestion, to improve the environmental performance of the freight transport system, and to enhance intermodality. Galileo is the first global satellite navigation system designed to resolve mobility and transport problems by providing positioning services.

[17] For further details see *Communication from the Commission–The EU's freight transport agenda: Boosting the efficiency, integration and sustainability of freight transport in Europe,* SEC(2007) 1351.

[18] In 2004, Germany had a 22% share of the total intra- and extra-EC international transport in tonnage terms, followed by France (15%), Belgium (11%), and the Netherlands (11%). Source: Eurostat (2005c) *Road Freight Transport by Origin.*

cabotage tonne-kilometers in 2004. Around 60% of all cabotage tonne-kilometers took place in France and Germany, and 20% in the UK and Italy.

3.2 Rail

Railways in Europe carry both passenger and freight traffic and provide vital economic links across Europe. However, railways in most of Europe continue to be seen as a problem. They have steadily lost market share in freight, falling from 20% to 8% of freight tonne-kilometers over 30 years.[19] The EU has taken a number of steps to liberalize and revive rail transport. Directive 91/440/EC aimed to increase the independence of the management of railway undertakings and introduce transparency in the finance and structure of the national railways of EU Member States. The Directive also created, for the first time, limited access rights for railway operating companies to enter into international groupings to run cross-border services. The Commission's initiative was followed by a number of other Directives:

- Directive 96/48/EC on the interoperability of the trans-European high-speed rail system (subsequently modified by Directive 2001/16/EC);
- Directive 95/18/EC on the licensing of railway undertakings; and
- Directive 95/19/EC on the allocation of railway infrastructure capacity and the charging of infrastructure fees.

Reforms in the organization of railways have also been proposed as part of the First and Second Railway Packages.[20] These include the separation of infrastructure and operations and the opening of networks to open access for freight. These reforms have been implemented in very different ways in different European countries. For example, the UK has completely separated infrastructure from operations but, unlike any other country in Europe, completely privatized both infrastructure and operations, with open access for freight operations. At the other extreme, France has separated infrastructure and operations but maintained both largely as public sector monopolies. Sweden also has gone for complete separation and has progressively opened up its rail freight market to competition. However, in spite of reforms and the international market for rail freight being "open", there remains a significant lack of interoperability in railway infrastructure and there is not yet cabotage in rail freight transport in the EU

3.3 Maritime

Maritime transport is very important in the European Community with 90% of EU external trade and more than 40% of its internal trade using sea transport. The EU shipping industry enjoys a worldwide dominant position, European nationals control one-third of the world fleet and the EC shipbuilding industry holds approximately 20% of the world capacity. With 556 million tonnes, the United Kingdom handled the most seaborne goods (16.5% of the entire EC-25 maritime transport), followed by

[19] European Commission 2006, *Policy effectiveness of Rail*.

[20] The first Railway Package is made up of Directives 2001/12/EC (modifying 91/440/EC), 2001/13/EC (modifying 95/18/EC) and 2001/14/EC (modifying 95/19/EC). The second Railway Package comprises Regulation 881/2004/EC, together with Directives 2004/49/EC, 004/50/EC and 2004/51/EC.

Italy (14%), the Netherlands (12%), and Spain (10%).[21] The EC has adopted a pro-active policy and adopted extensive regulations to develop the shipping industry and all aspects of European waters. In 1986, it adopted Council Regulation (EEC) No 4055 applying the principle of freedom to provide services to maritime transport between Member States, and between Member States and third countries. Some of the other important maritime regulations in EU maritime policy include:

- Regulation (EEC) No 4056/86 related to application of competition rules in maritime transport and enabled the EC to exempt/protect EU liner shipping conferences from competition. This was amended by a new regulation (EC No 1/2003) which now allows both EC and national authorities and courts to enforce competition rules. In 2006, EC also lifted the exemption for liner shipping conferences with effect from October 2008.
- Regulation (EEC) No 4057/86 relates to unfair pricing in maritime transport and enables the EC to apply compensatory duties to be imposed on foreign ship-owners in order to protect ship-owners in Member States.
- Regulation (EEC) No 4058/86 which aims to ensure free access to ocean trades by member countries.
- Council Regulation No 3577/92/EEC applying the principle of freedom to provide services to maritime transport within Member States (maritime cabotage). Cabotage is open to all shipping companies of Member States, with the main restrictions concerning vessels of under 650 Gross Registered Tonnage (GRT) and shipping connecting islands in Spain and Greece (Regulation No. 3577/92). This agreement, based on reciprocity, extends the protected market for European Union ship-owners, as cabotage continues to be protected from competition from vessels flying non-EU flags.
- Council Regulation (EC) No 3094/95 on aid to shipbuilding. This was reviewed in 2003 and the EC adopted a new Communication for stricter monitoring of the aid schemes in force.

European seaports are key elements in the logistics chain and serve multifunctional roles. More than 1000 seaports exist in the 20 maritime Member States of the European Union and on average deal with 3.5 billion tonnes of cargo per year.[22] Ports have also seen a series of developments and legislative proposals for providing competitive services and meeting environmental and security standards.

- **Rejection of Ports package and limited market access.** In 2003, the Commission's 'flagship' legislative proposal for a Directive on the market access for port services was narrowly defeated in the European Parliament after at least three years of negotiations. This was followed by a new Proposal in 2004; the Port Package II program would have liberalized port services by permitting shipping firms to appoint independent contractors to load and unload ships and would have ended terminal operators' monopolies on cargo handling. However, industry opposition to the proposal and widespread dockworker strikes across Europe led the EU parliament to reject the ports package for the second time in 2006.

[21] EU TPR 2007.

[22] European Sea Ports Organizations http://www.espo.be/Active_Policy_Issues/Ports_and_logistics.aspx

- **Security Regulations.** EU ports comply with the International Maritime Organization's Ship and Port Facility Security (ISPS) code as of July 1, 2004. The European Community has also adopted a regulation on ship and port security (EC 725/2004), with parts of the regulation being more stringent than the ISPS Code. In addition to this regulation, the EC recently adopted a Directive on port security (2005/65/EC), which extends security legislation to the entire port area. The EC also plans a future Directive on intermodal security dedicated to freight transport and covers third-country trade in transit in EU territory.
- **Environmental Standards.** EU ports have to comply with environmental legislation in port operations. The impact of new port projects on the environment is directly affected by two EU Directives – the Birds Directive (79/409) and the Habitats Directive (92/493) – and the network for protected areas known as "Natura 2000". These Directives require the approval of the environmental authorities and involvement of the EC for compensation measures when the site hosts a priority type of habitat or species.[23] Studies estimate that apart from these two directives, there are at least 12 other environmental directives that affect port development.[24]

3.4 Cargo Handling, Storage and Warehousing, and Transport Agency Services

Auxiliary transport services such as cargo handling, warehousing and transport agency services are open to competition in the EU. Directive 96/97/EC has provided for the cargo handling market to be opened up and from January 1, 1998, any airline was to have the freedom to self-handle on the landside or to ramp-handle at airports with more than a million passengers per year or 25,000 tonnes of cargo in the European Union. However, this EU directive allows member countries many exemptions in opening cargo handling for competition.[25] Cargo handling in ports is still subject to restrictions and port services can only be provided by monopoly companies.

3.5 EU Member Country Analysis

Germany, followed by France and the UK, has the highest market share in Europe as providers of logistic services (see Figure 1). They are followed by Italy, the Netherlands and Spain.

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[23] The implementation of the Birds and Habitats Directives is not consistent throughout the EU. Certain concepts are not clear (e.g. "likely significant effect", "adverse effect", "over riding public interest") and are interpreted in a different manner from Member State to Member State.

[24] These include the Bathing Water Directive, the Dangerous Substances Directive, the Wild Birds Directive, the Health and Safety in the Workplace Directive, the Shellfish Directive, the Urban Waste Water Treatment Directive, the Environmental Impact Assessment Directive, the Waste Reception Facilities Directive, the Water Framework Directive, the Strategic Environmental Assessment Directive and the Environmental Liability Directive. Psaraftis (2005) *Maritime Economics & Logistics*, 2005, 7, (73–82).

[25] For instance, the self-handling clause included an exemption allowing countries to limit self-handling airlines to as few as two per airport. Member States may also, under certain conditions, exempt airports partly or entirely from liberalization for three years on the land side and up to four years on the ramp side

Germany. The size of its logistics market was estimated to be €189 billion in 2006 and growing at an annual rate of 5%. Germany is a global leader in logistics innovation and technology, with 2.5 million industry employees in logistics. Germany is also home to the world's leading logistics players, including *Deutsche Post World Net* and *DHL*.[26]

France. France has an 11,000 km motorway network, 190 airports and several major maritime ports (including Marseille, the leading port in the Mediterranean, and Le Havre, Europe's 5th largest container port). There are approximately 800,000 people currently working in logistics activities in France, including in-house logistics activities in industrial and distribution companies.[27]

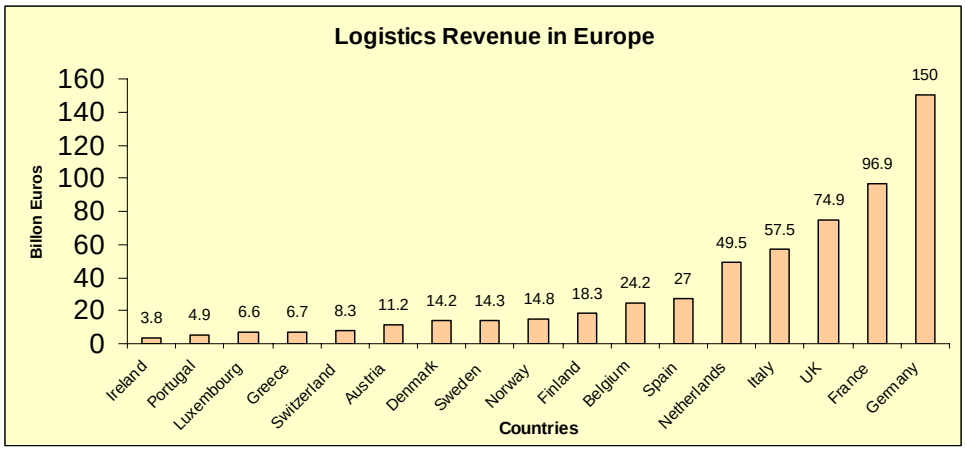
UK. The UK is one of Europe's major transportation hubs, with a well-developed transport network that has attracted a number of major distribution and logistics facilities. The UK logistics sector is worth £74.45 billion to the economy. It currently employs approximately 2.3 million people spanning around 196,000 companies. The UK government has an integrated 10-year plan to further develop the country's transport infrastructure with a US$339 billion investment program that includes railways, roads and local transport.[28]

Italy. In Italy approximately 160,000 businesses are active in transport and logistics, over 140,000 of which are in road transport. Logistics turnover was estimated to be around €120 billion in 2002 with 1.1 million employees in logistics. Transport flows in Italy in terms of value are dominated by road haulage, although sea transport makes up the bulk of transport traffic in terms of volume.[29]

Netherlands. The Netherlands is linked to all major European markets through a dense network of roads (78,029 miles), railways (1,745 miles), and inland waterways (3,135 miles) that keep delivery times for cargo under 36 hours throughout Europe. A 2006 survey commissioned by Capgemini and ProLogis ranked the Netherlands as Europe's "most desirable" location for European Distribution Centers (EDCs).[30] Most companies use Europe's largest seaport, Rotterdam, as their gateway to Europe. In 2006, 378 million metric tons of goods were handled in the port of Rotterdam and container throughput rose by 4 per cent.[31]

[26] www.invest-in-germany.com
[27] http://www.invest-in-france.org/international/en/logistics-sector.html
[28] *Focus on Freight*, 2006, Department of Transport, UK, www.tso.co.uk
[29] www.investinitaly.com
[30] http://www.logisticsmgmt.com/article/CA6440846.html?q=europe
[31] However, due to this rapid growth, the port is facing congestion problems, restrictions on empty containers, and strikes that are putting pressure on port facilities, manpower levels, and overall operations. http://www.logisticsmgmt.com/article/CA6440846.html

Figure 1: Logistics Revenue in EU member countries



Source: Top 100 in European Transport and Logistics (2007), Peter Klaus and Christian Kille.

The highest concentration of logistics activity remains around what Europeans call the "logistics banana" – an area stretching from the ports of Rotterdam and Antwerp through the Netherlands, Belgium, France and the western portion of Germany. However, different EU countries have different approaches to market liberalization in logistics and transport. In the road sector, most EU governments have been highly protective of their trucking sectors since most companies are small or mid-sized operators. Reverse cabotage is not allowed and trucks that take cargo to another EU nation cannot bring other goods home, or pick up and drop off local cargo within the country. Reports indicate that big trucking nations such as Germany and the Netherlands want an end to these restrictions and the full liberalization of the EU trucking sector.[32] However, France, Italy, Austria, and Portugal have taken a go-slow approach to market liberalization, with the view that complete liberalization of road haulage would harm competition. In the rail sector, liberalization of the European railway network has moved forward at a slow pace. The Rail Liberalization Index (2004) compared the relative degree of market opening of the rail transport markets in the enlarged European Union, Switzerland and Norway.[33] Of the 25 countries assessed, the United Kingdom, Sweden, Germany, the Netherlands, Denmark, Italy, Switzerland and Portugal had market access opportunities for external railway undertakings (RUs). In contrast, the market access opportunities offered to RUs by other European states, such as France, Austria and Belgium are restrictive or non-existent. Similar trends have been noted in the maritime sector; southern Member States such as France, Italy, Greece, Spain and Portugal had been reluctant to open maritime cabotage to service suppliers from other EU Member States, whereas the UK, the Netherlands, Belgium, Germany and Denmark insisted on easing national cabotage laws to enable establishment of a common market for maritime transport services. The controversy between the southern and northern countries made it

[32] International Herald Tribune Europe, April 7th 2008 at http://www.iht.com/articles/ap/2008/04/07/europe/EU-GEN-Transport-Liberalization.php

[33] Rail Liberalisation Index 2004, Comparison of the Status of Market Opening in the Rail Markets of the 25 Member States of the European Union, Switzerland and Norway. IBM Consulting. http://ec.europa.eu/transport/rail/research/studies_en.htm

impossible for the states to agree on liberalization of cabotage in the 1986 maritime package and Regulation 4055/86 had to exclude cabotage from its scope of application.[34] Although maritime cabotage was liberalized in 1993, in the case of France, Italy, Greece, Portugal and Spain, mainland cabotage was gradually liberalized according to a specific timetable for each type of transport service. Mainland-island and inter-island cabotage for these countries was liberalized in 1999. This exemption was prolonged until 2004 for scheduled passenger and lighter services, and services involving vessels of less than 650 gross tonnage in the case of Greece.[35] Reports indicate that the regulatory framework has not yet been fully harmonized by EU member countries such as Greece.[36] According to a recent ministerial decision, the fares for 27 routes to and from six major Greek ports, including Piraeus, have been liberalized.[37] However, the government is under pressure from ferry operators to proceed swiftly to full liberalization of the market and apply the rules of free trade in coastal shipping.

Foreign investments in EU member countries such as Italy and France are mostly from leading businesses from within Europe who have a Europe-wide network. Steady growth in the demand for outsourced logistics services in Europe over the past decade has resulted in the emergence of large European logistics providers such as Fiege, ABX Logistics, TNT logistics, Exel, UPS, DHL, Stinnes and Geodis. The German group, Fiege, is one of Europe's biggest logistics services providers and one of the leading suppliers of integrated logistics services specifically oriented to the pan-European market. In Italy, Fiege strengthened its presence through the acquisition of the Italian companies, Borruso and Logistica Futura.[38] Similarly, ABX Logistics was established as part of the Belgium Railways SNCB/NMBS and its international expansion took place via acquisitions in France (Dubois, Testud, and Delagnes), Germany (THL/Bahntrans) and Italy (Saima Avandero). Liberal policies adopted by countries like Germany and the Netherlands have led to their dominance in the European logistics markets. However, distribution centers are increasingly being relocated to the accession countries, particularly to the Czech Republic, Poland and Hungary due to locational and labor cost advantages. Poland's geographic proximity to the shipping corridors of the Baltic Sea and its borders with Western Europe make it ideally suited to distribution and logistics service providers. Labor costs are estimated to be 40 per cent lower in Central and Eastern Europe (CEE) than elsewhere in Europe.[39] The major obstacle to locating operations in Eastern Europe is its underdeveloped transportation infrastructure; highways have generally been limited in Eastern Europe, and railroads in eastern European countries operate at about 50 per cent of where they should because of poor investment and maintenance.[40] However, economic and political developments such as the EU-sponsored Trans-European

34 Parameswaran, B. (2004). *The Liberalization of Maritime Transport Services*.
35 http://europa.eu/scadplus/leg/en/lvb/l24065.htm
36 Marine Sector - Greece, 11/07/06, UK Trade and Investment www.uktradeinvest.gov.uk
37 Greece is a maritime nation by tradition and the only country in the EU whose government includes an autonomous ministry to handle matters of merchant marine and maritime transportation. According to the latest figures of the London-based Greek Shipping Cooperation Committee, Greek shipowners control 3,397 vessels over 1.000gt, representing 8.4% of the world's total number of vessels in service. Moreover, Greek-owned vessels flying the EU Member States' flags amount to 49.7% (DWT) of EU shipping.
38 www.investinitaly.com
39 CEE Change: Central & Eastern Europe Makes Waves, March 2007, Inbound Logistics.
40 http://www.inboundlogistics.com/articles/features/0307_feature02.shtml

Network for Transport (TEN-T) are making these regions new and attractive markets for logistics investments.

Section 4: Overview of Indian Logistics Market

The size of the Indian logistics market was estimated at US$3.5 trillion in 2005.[41] India's growing domestic market and external trade, particularly in textiles, automotive, auto ancillary, and engineering goods have contributed to a massive boost in the logistics industry. India's container traffic grew faster than the global container traffic during the past 6-7 years. India's containerization has over 70% of total exported cargo and around 40% imported cargo. The Indian government is making great efforts to improve trade by privatizing ports, increasing the number of gateway ports, investing in highway projects, streamlining customs and excise procedures, implementing EDI systems and improving the rail network. Containerization at major ports of India contributed about 11% of total cargo handled at those ports in 2000-01; it increased to 16% in 2005-06 and is estimated to further increase to 22.7% by 2010-11.[42]

Although there has been impressive growth in container traffic of over 15% per annum over the past five years, this is far less than international trends. The turnover time at ports came down from 3.7 days in 2002–03 to 3.5 days in 2005–06, but increased marginally to 3.6 days in 2006-2007.[43] The pre-berthing waiting time at major ports on port account, however, increased from 8.77 hours in 2005-06 to 10.05 hours in 2006- 07. The logistics cost as a percentage of the gross domestic product (GDP) stood at 13% in India compared to less than 10% of GDP in almost all of Western Europe and North America. According to industry analysts India spends US$30 billion more than it should on logistics due to inefficiencies in the system, such as high turnaround time at ports, lower average trucking speeds and the high cost of administrative delays.[44] India's indirect tax regime discouraged large centralized warehouses and led over time to fragmentation in the warehousing sector.[45] The transport sector's contribution to India's GDP was estimated to be around 6.6% in 2005-06, and road transport has a dominant role in this contribution with a share of 4.7% in India's GDP.[46] Some studies state that the Indian logistics industry is at an inflection point and predict that it will reach a market size of over $125 billion in year 2010.[47]

4.1 Road

India has one of the largest road networks in the world, aggregating to about 3.34 million kilometers at present.[48] The road network comprises 66,754 km of National Highways, 1,28,000 km of State Highways, 4,70,000 km of Major District Roads and

[41] Indian Logistics Industry, Surface transport, Cygnus Consulting, 2007.
[42] Centrum 2006, Background note on Containerisation, India and Global Scenario.
[43] Seaport, Challenges and Issues in India, CII.
[44] CII Logistics & Freight News, 15/11/2007.
[45] Details on fragmentation in warehousing are discussed in Section 4.4 on warehousing.
[46] http://www.researchandmarkets.com/reportinfo.asp?report_id=469247
[47] According to Datamonitor, outsourced logistics, at just above one-quarter of the entire $90 billion Indian logistics market, is slated to grow at a compound annual growth rate (CAGR) of over 16 per cent from 2007-10.
[48] Indian Economic Survey, 2007-2008.

about 26,50,000 km of Other District and Rural Roads. Out of the total length of National Highways, about 32 per cent is single lane/ intermediate lane, about 55 per cent is standard 2-lane and the balance 13 per cent is 4-lane width or more. Roads are the most popular mode of transportation in India, accounting for about 85 per cent of passenger traffic and 70 per cent of freight traffic. The road freight industry in India is estimated to be worth about INR 1.42 trillion and is growing at a rate about 6-8 per cent per year.[49]

The Ministry of Road Transport & Highways (MRTH) formulates policies on road transport and oversees the development and maintenance of national highways. The Department of Road Transport & Highways, an apex organization under the Central Government, is entrusted with the task of formulating and administering, in consultation with other Central Ministries/Departments, State Governments and individuals, the policies for road transport. It is also responsible for road safety in the country. The state governments oversee roads in their respective states, and issues related to rural roads such as policy development and monitoring are under the jurisdiction of the Ministry of Rural Development. The National Highways Act, 1956 was amended in 1995 to encourage private sector participation in the development, maintenance and operation of national highway projects; the private sector was allowed to invest in national highway projects, levy, collect and retain fees from user charges, and could regulate traffic.

The industry has traditionally been extremely fragmented; transporters with fleets smaller than five trucks account for over two-thirds of the total trucks owned and operated in India and make up 80 per cent of revenues.[50] The national highways and state highways account for less than 6 per cent of the total roads in India, but carry about 80 per cent of total traffic. There are a number of trends indicating that road traffic has expanded faster than capacity.

- The estimated average daily traffic volume on the national highway (2-lane) network is 39,000 passenger car units (PCUs) of motorized and non-motorized traffic as against a capacity of 15,000 PCUs.
- Commercial vehicles in India cover 250-300 km at an average speed of 30 km in a single day as against 600 km (average speed of 60-70 km) in the developed countries.[51]

However, the government has taken several initiatives under the National Highway Development Project (NHDP) to develop highways in India. As of November 30, 2007, 7,962 km of National Highways under the NHDP project have been completed, the bulk of which (5,629 km) lies on the Golden Quadrilateral (GQ). About 7,744 km of National Highways are under construction. Nearly 96 per cent of the work on the GQ was completed by November 2007 and the North-South and East-West corridors are expected to be completed by December 2009. A summary of progress under different phases of NHDP is given in Table 1.

[49] CII-KPMG White Paper, 2007.
[50] India Logistics Outlook, 2007.
[51] Report on Indian Logistics Market, 2005.

Table 1: NHDP & NHAI Projects (as of Nov 30, 2007)

NHDP Component	Total Length (kms)	Completed 4- lane (kms)	Under Implementation		Balance for awards of civil works
			Length (kms)	*No. of contracts*	
GO	5,846	5629 (96%)	217	25	
NS-EW	7,300	1,559	4,762	148	821
Port connectivity	380	163	211	8	6
Other NHs	962	337	605	16	20
NHDP Phase III	12,109	274	1,801	32	10,034
NHDP Phase V	6,500		148	2	6352
Total	**33,097**	**7962**	**7944**	**231**	**17233**

Source: Economic Survey (2008-2009), GOI.

4.2 Rail

India has the world's second largest rail network spread over 81,500 km and covering around 7000 stations. The government of India owns and manages Indian Railways via the Ministry of Railways rather than a private company. Railways are split into 16 zones and the Railway Board looks after the policy and operations of the Indian Railways. In addition, there are production units and subsidiary organizations such as Indian Railway Construction (IRCON), Rail India Technical and Economic Services (RITES), Container Corporation of India (CONCOR), and Center for Railway Information System (CRIS) each of which undertakes specialized jobs.

Rail freight traffic revenues stood at Rs. 350 billion in 2006. During April-November 2007, the total revenue-earning freight traffic grew at 8.2 per cent compared to 9.19 per cent during the corresponding period of the previous year. Most freight traffic is carried on electric traction. However, only 28 per cent of the Indian rail network is electrified in contrast to 100 per cent electrification in most developed economies.[52] Roads have dominated railways both in terms of passenger traffic and the amount of freight carried

The Indian Railways have been taking proactive initiatives in the area of tariff and fare fixation, and commercial practices. The freight structure has been rationalized, reducing the number of classes of commodities for charging purposes from 59 to 32. The rationalization of the fare and freight structure continued during 2007-08. Commodities are placed into different classes for the purpose of fixing tariffs. Freight movements are computerized, and there are new zones and divisions to ensure customer-friendly operations.[53] Some of the other proposals to transform Indian railways include introduction of higher axle load, double stack containers and modernization of track, bridge, and telecommunications.

The freight-carrying capacity of the railways is to be increased in the coming years by the construction of Dedicated Freight Corridors (DFCs). The railways has proposed a 2,700-kilometer-long railway line project at an investment of more than Rs. 28,000 crore which consists of a 1,232-km-long Eastern Corridor (from Ludhiana to

[52] The pace of electrification in developing countries, such as India, is sluggish due to capital constraints.

[53] For more details, see Economic Survey 2008-2009.

Sonnagar) in Phase I and a 1,469-km-long Western Corridor from Jawaharlal Nehru Port area (Mumbai to Dadri/ Tughlakabad) in Phase II. The development of Logistics Parks on the DFC has also been proposed.[54] A special-purpose vehicle (SPV) called Dedicated Freight Corridor Corporation of India Limited (DFCCIL) has been formed to implement the project.

4.3 Sea/Maritime Freight

The dominance of India's maritime transport is often attributed to a strategic location, a long coastline of 7,516 km and an established port infrastructure, comprising major ports and minor ports.[55] In 2006, the Indian shipping fleet was ranked 20th in terms of its fleet size in gross tonnage (gt) by flag of registration, constituting 1.16 per cent of the world fleet size. In 2007-08, up to October 2007, the cargo handled by major ports registered a growth of 13.9 per cent against 9.5 per cent in the corresponding seven months of 2006-07. JNPT, India's biggest container port, handled 3298 TEUs in 2006-2007 and 2667 TEUs in 2005-06.[56] The annual aggregate cargo handling capacity of major ports increased from 456.20 MT per annum (MTPA) in 2005-06 to 504.75 MTPA in 2006-07 and the average output per ship berth-day improved from 9,267 tonnes in 2005-06 to 9,745 tonnes in 2006-07. However, the average turnaround time increased marginally from 3.5 days to 3.6 days in 2006-07. The average turnaround time in major ports of India varies considerably across major ports, from 1.67 days in JNPT to 5.46 in Kandla.[57] The average turnaround time for major ports in 2006-2007 and 2005-06 is summarized in Table 2.

Table 2: Average Turnaround Time at Major Ports of India

Port	**2006-07**	**2005-06**
Kolkata	3.89	4.12
Haldia	3.97	4.00
Paradip	3.54	3.56
Vizhakapatnam	3.65	3.80
Ennore	1.89	2.23
Chennai	3.40	3.30
Tuticorin	3.67	2.83
Cochin	2.19	2.13
New Mangalore	3.14	3.00
Marmagao	4.46	4.08
Mumbai	4.63	4.09
Jawaharlal Nehru Port Trust (JNPT)	1.67	1.96
Kandla	5.46	4.39
All Ports	**3.62**	**3.50**

Source: Indian Ports Authority, Major Ports Profile, (2006-07).
Note: Figures are in number of days.

[54] Indian Economic Survey, 2008-2009.
[55] There are 12 major and 139 operable minor and intermediate ports. The 11 major ports are: Calcutta (including Haldia), Paradip, Vishakapatnam, Chennai, and Tuticorin on the east coast and Cochin, New Mangalore, Marmagao, Jawaharlal Nehru Port Trust, Mumbai and Kandla on the west coast.
[56] Container capacity is often expressed in *twenty-foot equivalent units* (TEU). An equivalent unit is a measure of containerized cargo capacity equal to one standard 20 ft (length) × 8 ft (width) container.
[57] Indian Ports Authority, Major Ports Profile, (2006-07).

The Ministry of Shipping oversees and formulates policies for the development of the shipping and port sectors. The 12 major ports are statutory bodies (trusts) administered by the Government of India under the Indian Ports Act, 1908 and the Major Port Trust Act, 1963. The *Indian Ports Act (1908)* lays down rules regarding safety of shipping and conservation of ports for the entire port sector and regulates matters pertaining to the administration of port duties, pilotage and other charges. The *Major Port Trust Act (1963)* lays down the institutional framework for the major ports in India. The working conditions of port labor are governed by the *Dock Workers (Regulation and Employment) Act of 1948*, which stipulates the terms and conditions of port labor employment, service rules standards and other welfare issues in the interest of port and dockworkers. The Act is very protective of workers' rights and offers them complete job security.

The Indian government has made amendments to the Merchant Shipping Act (1958) to encourage the growth and modernization of the industry. Some of these changes include simplification of regulatory procedures for raising resources from commercial markets, retention of sales proceeds from ships abroad, automatic approval for foreign direct investment up to 100 per cent FDI, repair of ships in any foreign shipyard without seeking prior approval of the government, and delicensing of many liner routes.[58] The government adopted the tonnage tax system in April 2004, and under the new regime ship-owners can opt for the tonnage tax whereby income tax is levied on the basis of income of the Net Tonnage (NT) according to a fixed scale. This is estimated to have reduced the incidence of tax by around 3 per cent and led to an immediate increase in Indian-owned tonnage.[59]

Privatization of port facilities and services has gathered momentum in India. Depending on the nature of the facility/ service, private operators can enter into a service contract, a management contract, a concession agreement or a divestiture to operate port services. The changes and liberalization of shipping services and ports offer new opportunities for logistics companies. Logistic companies in the marine based segments are expanding their fleets and entering into new ventures. For instance, Varun Shipping is procuring offshore vehicles, while NYK line has tied up with Tata Steel for its bulk cargo requirements. A number of shipping and port MNCs are focusing on Indian ports and there is huge interest in developing third and fourth container terminals of JNPT. JNPT port has signed a license agreement with Gateway Terminals India, a consortium led by the Danish major, Maersk Sealand, to set up the third container terminal at the port. Recently, there were reports that the port of Rotterdam and Sohar Industrial Port have formed a consortium with Sea King Infrastructure Limited (SKIL) to develop Positra port in Gujarat. Rotterdam port would provide its expertise in developing, managing and operating the terminal, while Sohar will use its world-wide commercial linkages to help establish linkages with international maritime networks.[60]

In spite of these positive developments, Indian ports have a long way to go to reach international standards. Despite having adequate capacity and modern handling facilities, the average turnaround time of 3.6 days, compared with 10 hours in Hong Kong, undermines the competitiveness of Indian ports. A report by the Ministry of

[58] Further details on India's Maritime policy can be found at Mukherjee (2001).
[59] Report of the high-level group on Services Sector, Planning Commission, March 2008.
[60] Times of India, 21st March 2008 " Positra set to be India's Rotterdam".

Shipping (2007) analyzed the efficiency of the major ports in the country and compared the performance of Indian ports to the ports of Rotterdam and Singapore. [61] It was observed that the dwell time for containers at major Indian port container terminals is 1.88 days for import and 3.78 days for export, whereas in Singapore it is 0.6 days for import (trans-shipment) and 0.6 days for export (trans-shipment).[62] A detailed time-study revealed that although the total time taken by the port authority is 3.5 to 5.5 hrs for import and 3.3 to 5.3 hrs for export, the rest of the time the container dwells in the port is on account of other stakeholders like shipping agents, customs, clearing agents, transporters, for payment of port charges and arrangement of transport. There are significant differences between Indian and international ports, especially regarding connection to the hinterland and level of computerization. In the port of Rotterdam, enterprise resource planning software was implemented years ago, while it is still being envisaged for implementation in India. EDI implementation is also partial in Indian ports, with many human interfaces and manual exchange of documents. The other major differences between Indian ports and the Rotterdam port are summarized in Table 3 below.

Table 3: Key differences between Indian ports and Rotterdam

S. No.	Indian Ports	Rotterdam Port
1. Evacuation/ Aggregation of cargo		
	Cargo is predominantly through rail and road only.	Bulk cargo and container movement through barges accounts for 50-60% of transportation because of excellent inland water-networking. Intermodal connectivity by road/ rail is seamless.
2. Level of Mechanization		
	The extent of mechanization is low in Indian ports.	The level of mechanization is very high with the latest technologies applied in all spheres.
3. Location of port-based industries		
	Most manufacturing firms are located away from the ports.	Most manufacturing units are located within the ports so evacuation is very fast.
4. Availability of storage space		
	Land is very scarce in ports. So evacuation has to take place.	As so much land is available at Rotterdam port, the longer the cargo lies within the terminal, the higher the revenue to the terminal operator.
5. Availability of Resources		
	There are dedicated terminals with fewer berths.	There is no concept of pre-berthing detentions as berths are waiting for the ships and they have longer quay lengths.

Source: Department of Shipping, India, (2007).

[61] http://shipping.gov.in/writereaddata/linkimages/im6131192005.pdf

[62] Dwell time is defined as the time the cargo / container remains in a terminal's in-transit storage area while awaiting shipment by vessels in exports or evacuation by rail / road in imports. At the Port of Rotterdam dwell time is not a matter of concern since the port is a component of the industrial complex similar to Special Economic Zones.

4.4 Warehousing

Warehousing is an important segment of logistics and consists of warehousing related to distribution (trans-shipment warehouse), and terminals used for bulking/debulking and temporary storage. The size of the warehousing segment in India was estimated to be Rs. 1.2 trillion in 2006.[63] The warehousing sector is highly fragmented due to India's indirect tax structure. Since taxes paid on cross-border sales are higher than local tax charges, most companies prefer to set up small warehouses across different states rather than large centralized set-ups. This leads to small-scale, fragmented warehouses, with corresponding inefficiencies.

The enactment of the Warehousing (Development and Regulation) Act in December 2007 was an important initiative to regulate the warehousing business. The Act seeks to register warehouses issuing negotiable warehouse receipts and also allows registration of accreditation agencies for warehouses. The Central and State Governments presently dominate the warehousing industry, both as clients and as service providers. The Central Warehousing Corporation (CWC) is the largest provider of warehousing services in India and operates 517 warehouses across the country with a storage capacity of 10.3 million tonnes.[64] MCX-owned National Bulk Handling Corporation is becoming a serious player in the industry followed by NCDEX-managed National Collateral Management Services. Most third-party logistics providers including EU companies such as Maersk Logistics India also provide storage and warehousing facilities. However, private sector participation has been limited to date due to scarcity of land, lack of prescribed standards and uniform practices for quality verification, lack of a uniform accreditation body in the warehousing sector, etc.

4.5 Third-Party Logistics Providers (3PL) in India

Third-party logistics (3PL)/outsourced logistics is the outsourcing of a company's logistics operations to a specialized firm that provides multiple logistics instead of having a business unit in-house to oversee its supply chain and transportation of goods. Third-party logistics is still at a nascent stage in India. According to Datamonitor, outsourced logistics represents around one-quarter of the entire $90 billion Indian logistics market and will grow at a compound annual growth rate (CAGR) of over 16 per cent from 2007-10. The 3PL industry in India was pioneered by global logistics majors – Indian subsidiaries of multinational companies in the automobile, electronics and FMCG sectors were the main users of specialist logistics service providers in the past. Frost & Sullivan identified the auto industry as the largest end-user industry for 3PL services in India.[65] Expansion of manufacturing facilities by multinational automobile makers, like Suzuki, Honda, and Ford indicates huge potential for 3PL providers.

The number of participants in the 3PL industry grew to more than 400 in 2005.[66] The Indian 3PL industry can be divided into three distinct tiers – national major 3PL

[63] CII-KPMG white paper, 2007.
[64] Warehousing activities of CWC include food grain warehouses, industrial warehousing, custom-bonded warehouses, container freight stations, inland clearance depots, and air cargo complexes.
[65] Frost & Sullivan (2006). *Strategic Analysis of Third Party Logistics (3PL) Market in India*.
[66] Ibid.

companies with nationwide presence, regional 3PL companies with strong presence in one or two regions, and small remote 3PL companies. There are several 3PL companies from the EU with a nationwide presence operating in India, including Maersk Logistics, Geodis, DSV Frans Maas and Schenker logistics. 3PL providers in India face several challenges due to the huge diversity in geographic conditions, consumer habits, and infrastructure conditions across the country. Logistics operations in each state require a state-specific suitable model that facilitates effective storage and transportation of goods mostly sold in that state, making it difficult to adopt a uniform logistics model. Infrastructure limitations in India, which limit the scope of logistics services as a package, are another concern for 3PL service providers.

Section 5: Trade and Investment in Logistics Services

India- EU trade has grown substantially in the last two decades, from €4.4 billion in 1980 to over €46 billion in 2006. Trade with the EU represents almost 20% of India's exports and the EU is also India's largest source of foreign direct investment. However, India accounts for just 1.8% of total EU trade and attracts only 1.3% of the EU's world-wide investments.[67] Transport equipment is among the major EU exports to India. In 2006, machinery and transport equipment accounted for 41.2% of EU exports to India. In transportation services, EU exported $280.5 billion with a share of 44.4% in world export of transportation services in 2006; in the same year, India exported $7.8 billion with a share of 1.2%.[68] Although India doubled its share of world exports in the past five years (India's share was 0.6% in 2000), India's share in total EU exports of transport services was only 1.1% in 2005.[69] In imports, the EU imported $266.2 billion with a share of 35.4% in world import of transportation services in 2006, while India imported $25.1 billion with a share of 3.3%. India's share in extra-EU imports of transportation services was 1.25 % in 2005.[70]

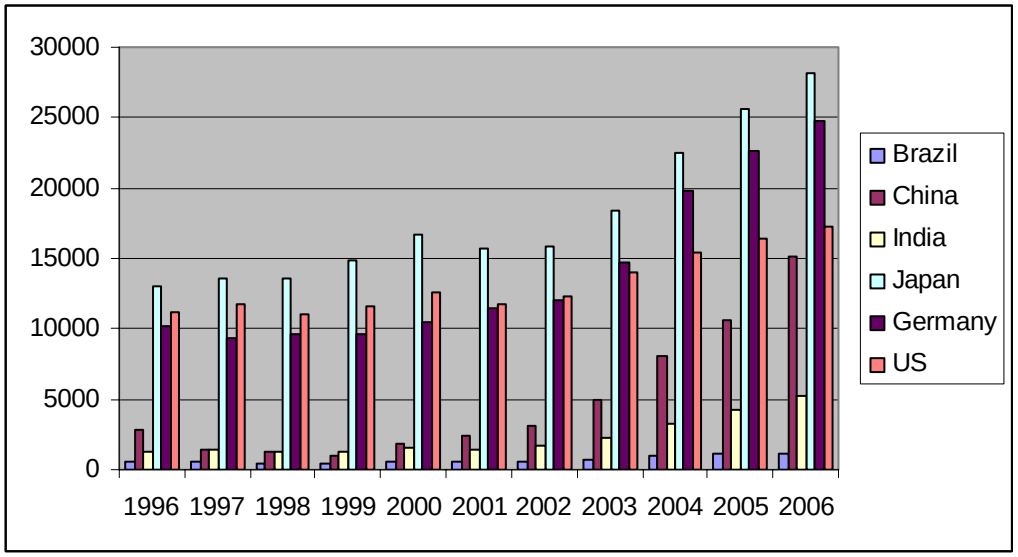
The data on trade in transportation services outlined above clearly indicate the dominance of the EU in world trade in transport and logistics services. Since provision of logistics services requires large capital backing, aggressive marketing, superior know-how and network capacities, trade in logistics services has been dominated by developed countries such as the EU and resulted in a trend towards oligopoly in many market segments. However, the evolution of transport logistics in recent years has had a significant impact on trade in logistics services for India. The growing containerization of cargo, the possibility of subcontracting shipping, railway, and truck services at competitive rates, and greater demand for speed in transport have all lead to growth of logistics services in recent years.

Trends and data in logistics services can be examined from individual sub-sectors of logistics services. The case of freight transportation services is often used since it is one of the main areas of logistics services trade. The following two figures illustrate the exports and imports in freight transportation of Germany, Japan, the United States, Brazil, China and India from 1996 to 2006. The two figures highlight the fact that

[67] http://ec.europa.eu/trade/issues/bilateral/countries/india/index_en.htm
[68] International Trade Statistics, 2007.
[69] The EU exported $2778 million to India in 2005 with the share of 1.1 % of total EU export of transport service (1.96% of extra-EU exports).
[70] The EU imported $1.52 billion from India in 2005 (1.25% of extra-EU imports).

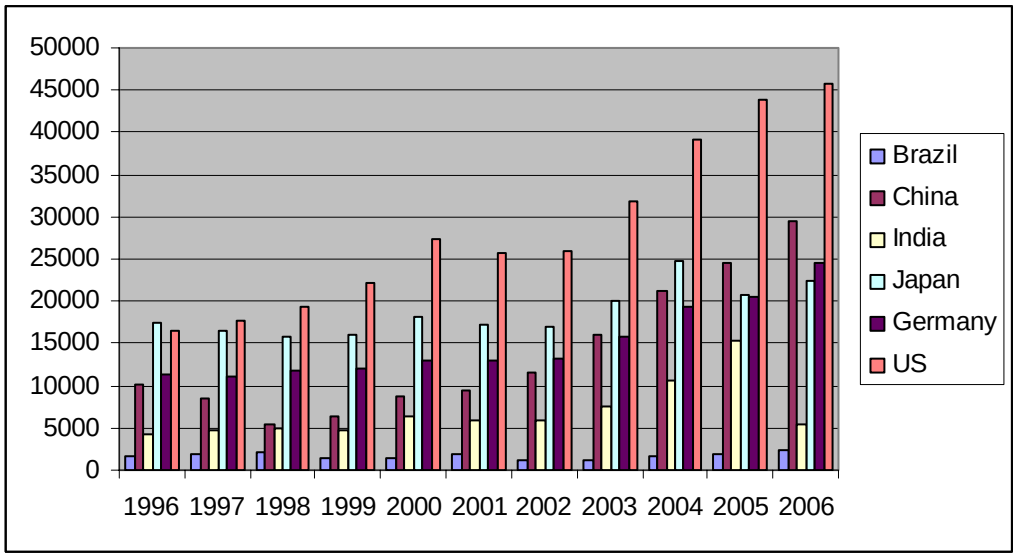
developed countries, such as Japan, Germany and USA are the major importers and exporters of freight transportation services, while developing countries like China and India still lag far behind. However, exports of freight transportation services seem to be increasing in developing countries and China has become a bigger player than India. [71]

Figure 2: Exports of Selected Countries (All Modes) Freight Transportation



Source: IMF Balance of Payments, 2007.

Figure 3: Imports of Selected Countries (All Modes) Freight Transportation



Source: IMF Balance of Payments, 2007.

[71] UNCTAD, 2006.

An estimate of the size of the trade in logistics can also be made from data on cargo traffic at ports. The total traffic transported by sea in the EU-25 was estimated to be 2.8 billion tonnes in 2004. The 20 EU-25 Member States that have seaports totaled 302 'main' ports between them, i.e., ports handling over 1 million tonnes of goods per year. Of 2.8 billion tonnes of goods, international-EU transport was clearly the most important, making up 58% of total maritime transport and more than twice as much as intra-EU transport (28%).[72] The following table summarizes the volumes of cargo traffic for major Indian ports and the port of Rotterdam, in the Netherlands, EU. During 2005, the port of Rotterdam handled 370 million tonnes of cargo while all major Indian ports together handled 423 million tonnes of cargo. A single port in EU handles cargo traffic comparable to all ports in India added together. The data indicates that EU ports have very high volumes of cargo traffic, including trans-shipment traffic, while Indian ports are much smaller players in terms of volumes of cargo.

Table 4: Comparison of Cargo Traffic at Indian Ports and Port of Rotterdam

Port	Period	POL	Iron Ore	Fertilizer		Coal		Container		Others	Total
				Finish-ed	Raw	Ther-mal	Coking	Tonn age	TEUs		
Indian Ports	2004-05	126442	76195	3846	5831	33322	19237	54761	4233	64112	383746
	2005-06	142087	79171	6624	5570	37658	21101	61980	4613	69376	423567
Port of Rotterdam	2004 Jan-Dec	135400	42300	The above commodities are included in the category "Others"				82500	8292000	92300	352600
	2005 Jan-Dec	144300	40800					91200	9287000	93900	370200

Source: Ministry of Shipping, 2007.

A third indicator of logistics trade is the Logistics Performance Index (LPI) developed by the World Bank, 2007. The LPI indicator on trade logistics compares countries on seven different logistics parameters such as customs procedures, logistics costs (such as freight rates) & infrastructure quality, ability to track and trace shipments, timeliness in reaching a destination and the competence of the domestic logistics industry. Most EU member countries have a very high ranking on the LPI, with the Netherlands and Germany holding the second and third ranks. India's rank is 39, behind China and Thailand.

[72] Eurostat, 2007.

Table 5: Logistics Performance Index of Selected EU Countries and India

Country and Rank	LPI	Customs	Infrastructure	International shipments	Logistics competence	Tracking & tracing	Domestic logistics costs	Timeliness
Netherlands (2)	4.18	3.99	4.29	4.05	4.25	4.14	2.65	4.38
Germany (3)	4.1	3.88	4.19	3.91	4.21	4.12	2.34	4.33
Sweden (4)	4.08	3.85	4.11	3.9	4.06	4.15	2.44	4.43
Austria (5)	4.06	3.83	4.06	3.97	4.13	3.97	2.24	4.44
United Kingdom (9)	3.99	3.74	4.05	3.85	4.02	4.1	2.21	4.25
Belgium (12)	3.89	3.61	4	3.65	3.95	3.96	2.62	4.25
France (18)	3.76	3.51	3.82	3.63	3.76	3.87	2.34	4.02
Italy (22)	3.58	3.19	3.52	3.57	3.63	3.66	2.39	3.93
China (30)	3.32	2.99	3.2	3.31	3.4	3.37	2.97	3.68
India (39)	3.07	2.69	2.9	3.08	3.27	3.03	3.08	3.47

Source: Compiled by the author from LPI, World Bank, 2007. http://info.worldbank.org/etools/tradesurvey/Mode1a.asp
Note: The scores are from 1 to 5, with 1 being the lowest and 5 being the maximum rank. Singapore ranks first on the Logistics Performance Index, followed by the Netherlands, Germany, Sweden and Austria. Japan ranks 6th and the United States ranks 14th.

A comparison of the domestic LPI of India and Germany in Table 6 reveals that India's percentage of physical inspection is more than 10 times higher than that of Germany. There is a 25% rate of incidence of physical inspection at Indian check posts that results in an average customs clearance time of 2.4 days. This is very high compared to EU countries like Germany where the average customs clearance time is less than a day. The lead times for imports and exports in India are almost double that of Germany.

Table 6: Comparison of Domestic Logistics Performance of India and Germany

	India	Germany
Rate of physical inspection (%)	0.25	0.02
Customs clearance (days)	2.39	0.72
Lead time export, median case (days)	4.05	2.26
Lead time import, best case (days)	3.99	1.59
Lead time import, median case (days)	4.69	2.4
Number of border agencies for exports	2.93	2.8
Number of border agencies for imports	2.44	3.67
Possibility of a review procedure (%)	0.39	1
Typical charge for a 40-foot export container or a semi-trailer (US$)	601.37	806.39
Typical charge for a 40-foot import container or a semi-trailer (US$)	618.99	806.39

Source: Compiled by the author from LPI, World Bank, 2007.

Available data on various logistic indicators such as exports/imports of freight transport, cargo traffic, and the LPI indicate that the EU is a world leader in trade and investment in logistics services. On the LPI, many EU countries rank higher than other developed countries such as the United States and Japan. India is a much smaller player, with lower levels of cargo exports and imports on all indicators. However, the data does not provide a clear picture of EU investments in the Indian logistics market and Indian presence in EU markets. A primary survey was carried out to gain an understanding of the nature of trade and investment flows between India and the EU in the logistics sector. The survey also identified barriers faced by Indian and EU companies in each other's respective markets. The survey covers a total of 30 logistics firms which include 11 EU multinational firms with collaborations/tie-ups in India, 2 multinational but non-EU firms with offices in India, 15 Indian firms with offices and collaboration in the EU and 2 Indian firms planning to expand operations to the EU in the next year. The main purpose of the survey was to identify the nature of investments and trade by EU and Indian logistics firms and examine the barriers they face in each other's markets. Although the survey gave important insights into the logistics trade, it could not provide statistical data on investments or trade by EU or Indian companies since most companies do not reveal such data due to their privacy policy.

Methodology. The survey was based on semi-structured questionnaires. The primary purpose of the questionnaires was to structure the discussion. Two sets of questionnaires were designed – one for EU companies with a base/tie-ups in India and the other for Indian companies with a base/tie-ups in the EU. Information was

collected through onsite visits and interviews with senior officials of the companies. The questionnaires helped to structure the discussion and served as a guiding tool. The interviews were kept partially open-ended to capture as much information as possible and to boost the exploratory nature of the research.

Modes of trade. Trade between the EU and India takes place primarily in Mode 3 and Mode 4. Trade in Mode 3 is dominated by EU companies. Most of the EU companies surveyed are large multinational companies (MNCs) with wholly-owned subsidiaries in India. On the other hand, Indian companies do not have large investments in the EU and operate in the EU either through a network of agents/associates or through functional tie-ups. Due to their smaller size, Indian firms prefer not to make large investments. Trade in Mode 4 is dominated by India. Trade under Mode 4 involves the cross-country temporary movement of professionals (consultants, managers, technicians, engineers, etc.) to provide logistic and transport services. 80% of Indian companies in the survey provide logistics consulting. In the rail sector, companies like RITES provided rail-related consultancies, and in the maritime sector, Indian seafarers are globally recognized and sought after. India supplies 4.5% of seafarers to EU-registered ships.[73] There are some indications of trade in Mode 1 through delivery of transportation and logistics software or transport management software (TMS). The complexities of a multi-modal logistics network has given rise to the need for software to cover the entire transportation process – from strategic transportation sourcing, planning and optimization, to shipment visibility, and payment and performance analysis. There is also new demand for "advanced trucking" in Europe, a system which automatically generates routes and real-time dispatching.[74] While large multinational EU companies are likely to possess transportation management software, medium-sized EU companies that have grown through mergers will require specialized software. However, market entry barriers are high since the investments and niche/specialized knowledge required are high. Large Indian IT companies will be in a good position to provide these services, especially if they can reduce costs and improve services, making TMS affordable to mid-size and smaller organizations.

Services provided. The range of services provided by Indian and EU companies included third-party logistics, ground and air freight forwarding, logistics consulting, customs brokerage, air, ground freight and maritime freight transportation, and storage and warehousing. While most of the EU firms currently provide door-to-door services provided by third-party logistics services, only 2 of the Indian firms currently do so. However, some Indian firms indicated that they plan to expand into third-party logistics in the future. The size of the Indian and EU firms in logistics operations are noticeably different. For instance, Indian logistics firm, ABC India Limited, stated that their total revenue in the past financial year was Rs. 1100 million with 90% from Indian operations and 10% from EU operations. The Indian firm, TVS Logistics, reported revenues of Rs. 1900 million in 2006-07. In contrast, the EU firm DHL reported a revenue of approximately €65 billion (2006) with 1% of revenues from India[75] and the EU firm, DSV, stated a global revenue of €4.8 billion in the past

[73] EMSA 2007
[74] Transportation Report 2007 Capgemini Consulting.
[75] Indian revenues of DHL amount to Rs . 43,745 million after conversion (conversion rate €1= Rs. 67.3).

financial year, with 1% of revenues from India.[76] While ABC India Ltd has 9 major office locations in India, DHL has 30 major office locations in the country.

Investments. The survey indicated that the majority of EU firms operating in India entered initially through joint ventures in order to gain local market knowledge, get assistance from their partners in acquiring and setting up offices/infrastructure across cities and employ necessary manpower. However, most EU companies set up wholly-owned subsidiaries after initial entry. The reasons for entry into India range from general reasons such as the high growth potential of India to company-specific issues such as the establishment of their own customs clearance services for the company. The size of investments by EU companies is substantial and many EU firms have offices across India. All EU firms have investments offices and networks in other developing country markets like China, Malaysia, Thailand, Korea, the Middle East, etc.

Indian companies enter the EU primarily to meet existing customer requirements and also due to the EU's market potential (four Indian companies stated that they entered the EU since it is one of the major markets for automobiles worldwide). Also, the EU is a gateway for Indian companies with trade links in the US and serves as a hub connecting the US and India. Indian firms are smaller in size and relatively local in operations, with joint ventures in 2 or 3 European markets. Except for one Indian company, most firms did not have any established offices in the EU. Indian firms prefer this kind of tie-up since it involves minimum commitments and costs. These associates in the EU contact the supplier (client), pick up the cargo, select a particular airline/ocean carrier, and complete the customs duty.

Indian companies versus foreign players. The strength of Indian companies was found to be in their local knowledge, flexibility, strong customer base and lower costs of operation, while weaknesses include lack of competitiveness on a global scale and problems in meeting international service standards. In contrast, the major strength of EU companies is in their wide network, global reach and access to information. Customers consider EU companies to be more reliable as they have well-defined standards and processes in place; however, they rate poorly against Indian companies for their understanding of the local Indian market. When asked to grade India vis-à-vis other developing country markets, most EU logistic firms felt that China was a major competitor to India in logistics followed by countries such as Malaysia, Indonesia, and Thailand. Many EU companies started operations in China before entering the Indian market and felt that China has a distinct advantage over India due to better infrastructure facilities.

Given the primary and secondary data, it can be inferred that the current Indian share in the EU logistics market is minor (less than 1%). However, opportunities do exist particularly for seafarers and transport management software. On the other hand, the EU share in the Indian logistics industry is significant. EU firms such as DHL and Maersk Line dominate and are considered benchmarks in the Indian supply chain industry.

[76] Indian revenues of DSV amount to Rs 3,230 million after conversion (conversion rate €1= Rs. 67.3).

Section 6: Trade Barriers

Barriers to trade in logistics arise primarily from bottlenecks in infrastructure and transport policies and regulations. Barriers to trade for the EU and India are analyzed in the following section for each mode of transport involved in logistics.

6.1 Barriers in the EU

6.1.1 Road

The road transport sector is relatively diverse when examined in the European context.[77] The logistics bottleneck exercise conducted by the European Commission in 2007 highlights many of the problems faced by the logistics industry in the EU. Logistics stakeholders state that the most significant problems in road transport in the EU include driving bans for trucks during weekends and nights, extensive restrictions on drivers' working hours, and different VAT and toll regimes in member countries. A key issue is enforcement of Directive 93/104/EC on working time. Enforcement problems have been reported in Hungary, Greece, Germany, Slovenia, Portugal, Poland and Denmark. The problem is serious particularly in countries where road transport plays a significant role in the national economy and competition is fierce.

Although road cabotage had been liberalized in the EU, it is difficult for a foreign company to become a road transport operator. Any transport operator has to meet a number of conditions to attain a community license including that of good repute, financial standing and holding a Certificate of Professional Competence (CpC). Studies have shown that actual practice of the requirements and implementation of the Directives such as 93/104/EC, Directive 96/53/EC and Directive 2002/15/EC are often problematic.[78] They also state that there are large discrepancies between different Member States on application and interpretation of directives.[79] For instance, a 2005 study submitted by NEA Transport research to the European Commission states that 25 EU Member States provide a very diverse picture on the different practices and requirements used for the assessment of the financial standing requirement.[80] Some of these requirements for different EU countries are summarized in the table below.[81]

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[77] In some countries, the sector is considered vital to the national economy, providing many jobs; in others, usually smaller countries that are not located in the center of Europe, the sector is less economically important.

[78] Details on the directives are covered in Appendix B.

[79] Member States of the EU use their respective administrations for application of the requirements of the Directive. However, national administrations enjoy discretion due to their powers as well as room for maneuvering within the Directive.

[80] Study on admission to the occupation of road transport operator: review of current arrangements in Member States and acceding countries: NEA Transport research and training Transport Innovation and Systems (TIS).

[81] Different EU countries have different minimum extra conditions to those presented in the Directive (related to the involvement of auditors in the external verification process, limits to debts with public bodies and compulsory bank deposits).

Table 7: Financial Standing Requirements of Selected EU Member Countries

	Minimum Capital (€)		Maximum interval between inspections	External verification procedure		Extra conditions	
	1st vehicle	2nd and others		Insurance or bank guarantee	Auditor's report	Bank deposit	Tax and debt limits
Belgium	9.000	5.000	5 years	Yes, having financial institutions issuing the guarantee responsibilities on potential debts			
Germany	9.000	5.000	5 years	Yes, the firm must submit a certificate on equity capital issued by a financial institution or auditors			Firm must present clean records from tax authorities, insurance, social security and municipal authorities
Denmark	20.000	5.400	5 years	Yes, in the form of a standard bank guarantee	Yes, new firms must present a business plan under supervision of an auditor or financial institution		Debt limit with any public agency of €6.700, for having "financial standing". If debt reaches €13.500, transport license is revoked
Sweden	10.000	5.000	Not available	Yes, bank guarantee and auditor's report are alternative means of proof of financial standing			
Netherlands	18.000	5.000	5 years		Yes, accounts of the firm must be approved by an auditor		
United Kingdom	*9.000*	*5.000*	*Not available*			Compulsory cash deposit for the total amount of financial resources	

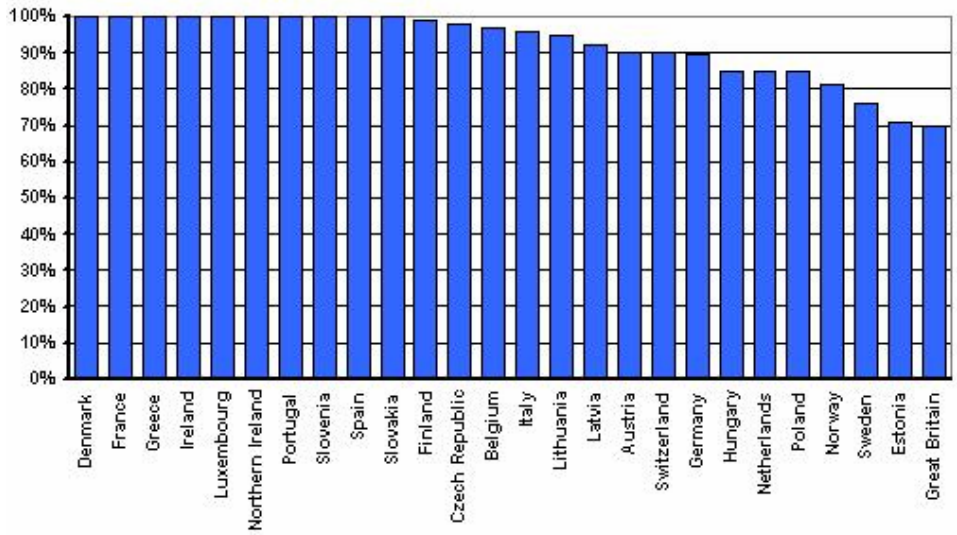
Source: Study on admission to the occupation of road transport operator: review of current arrangements in Member States and acceding countries, European Commission, July 2005.

Problems are also encountered in acquisition of certifications of professional competence due to diversity in issuance conditions across Member States. First, the level of examination varies greatly across EU countries. Some countries such as France have very difficult examinations, whereas in other countries it is easy to pass. Second, the definitions of who needs to have the CpC vary among countries. Austria, for example, defines "the person in charge of daily operations" as the person that should have CpC, while Denmark stipulates that the CpC holder needs to work 70% of his time in the company. Third, the amount of training required also varies; for instance, in Belgium and Denmark, training is compulsory, while in Germany and the Netherlands "training is recommended".

6.1.2 Rail

The EU rail freight market has a number of obstacles for new and foreign entrants due to the monopolistic nature of the rail market. Studies on the EU rail market have shown that competition is limited because even if overseas suppliers can compete on price, they have major difficulties in meeting regulations, specification requirements and safety assessment processes of the EU. The market share of the largest rail operators is mostly unchanged. The graph below shows the market share of existing rail operators in the EU-25 in 2005. There were no new entrants in Denmark, France and Greece in the rail freight market in 2005; however, market entry was seen in Germany, Sweden, the UK, the Netherlands, Italy, Poland and the Czech Republic.

Figure 4: Rail Freight Market Shares of Largest Operators



Source: Steer Davies Gleave (2006). [82]

The logistics bottleneck exercise conducted by the European Commission in 2007 identified a number of problems with logistics and rail transport in the EU. Stakeholders underlined bottlenecks in infrastructure and policy.

[82] Railimplement: The implementation of the EU Directives 2001/12, 2001/13 and 2001/14 in the Member States *Steer Davies Gleave (2006).* The report can be accessed at http://ec.europa.eu/transport/rail/research/studies_en.htm

The major bottlenecks in **infrastructure** include:

- Interoperability: differences in technological standards among national rail networks (train length, clearance gauge, axle load, etc.). The four freight corridors with the highest potential for logistics, including Rotterdam to Barcelona and Milan, were identified as suffering from non-interoperability.[83]
- Missing rail links: There is a lack of links between some areas, especially in border crossing which causes significant delays in cargo delivery.

The major bottlenecks in **Policy and Regulation** include**:**

- Lack of mutual recognition: Locomotives and other vehicles running in one Member State are not necessarily allowed to operate in others under the current rules. For example, rolling stock already approved for service in one Member State must be submitted to the same or an equivalent allowance procedure.
- Persistent dominance of incumbent national railway although the market has been formally liberalized with a "de facto" monopoly on essential services (such as railway personnel training, refueling, and maintenance).

The monopolistic position of the national railway leads to other associated problems such as high access fees and anti-competitive behavior. For instance, a recent US report states that the Belgian state railroad is using its monopoly power in rail passenger transportation to cross-subsidize the Belgian package delivery service known as ABX. Belgian railroads are also exempt from VAT on their mail transport business and reportedly do not pay any of the fines (such as traffic tickets) frequently incurred by private mail operators.[84]

6.1.3 Maritime

Maritime transport operators highlighted several barriers to ports and shipping in relation to logistics in EU. These include:

- Inadequate port infrastructures and increasing lead times and operational costs (for example, North European ports' capacity does not match the demand any more).
- Maximum allowable weight of vehicles differs from one Member State to another.
- Unfair competition between coastal navigation and road transport.

Voyages by ship from a port of one EU Member State to another are always considered international even when the cargo transported is internal market-cleared goods. Consequently, maritime transport between Member States involves many

[83] The freight corridors include 1) Rotterdam – Paris – Barcelona; 2) Rotterdam – Cologne - Bâle – Milan; 3) Munich – (Stuttgart) – Lyon – Barcelona (Madrid); 4) London – (Paris) – Milan.
[84] Foreign Trade Barriers EU USTR, 2007.

documentary checks and physical inspections by customs, health, veterinary, plant health and immigration control officials. [85]

Compliance with regulations for security and environmental protection is estimated to place a heavy burden on shippers and ports.[86] Port services such as cargo handling are provided by monopoly companies and lead to high access fees. The European Community Ship-owners Association (ECSA) and other shipping associations in Europe have identified bottlenecks in maritime door-to-door shortsea shipping in specific member countries, which are summarized in the table below.

Table 8: Bottlenecks in Port Sector of Selected EU Countries

Country	Problems
Belgium	Customs are not open 24 hours and are far from the discharging berth of the container barge.
Spain	Free negotiation of haulage prices is not possible. National hinterland transport has monopolistic policies and structure.
Netherlands	Customs documents have to be issued 24 hrs before shipment due to difficult customs' clearance procedures.
Sweden	Fairway and pilotage fees are very high on Lake Vänern and Mälaren in Sweden.
Poland	Harbor pilotage is very expensive due to the monopolistic standing of the Polish pilotage firms and existing harbor safety regulations.

Source: Shortsea Shipping (2006)

Conclusion. Barriers to logistics in EU arise from three major sources: infrastructural limitations, regulatory issues, and differences between policies of EU Member States. Restrictions exist in Mode 4 for road transport operators since certifications of professional competence are required and requirements vary across Member States. Market access barriers exist in rail and maritime port services as these services are provided mostly by monopoly companies. The development of a common EU maritime policy is another area of concern for foreign maritime operators since these policies may lead to excessive coastal control over non-EU commercial vessels and further limit access to ports in EU Member States.[87]

Individual EU member countries have further barriers in the form of additional verification procedures for road transport operators and specific bottlenecks in port access and charges. However, since a common goal of the European Union and the national governments lies in creating a single European transport market, including relations with non-member countries, the transport policy and regulations are similar in most EU Member States. The EU supports national treatment for foreign investors

[85] The European Commission has adopted a proposal to establish a European Space for Maritime Transport without barriers with a view to eliminating or reducing the numerous administrative procedures which apply to goods shipped by sea between European ports.

[86] The time between the conception of a port project and the actual start of the construction can last from five to ten years due to delays and uncertainty caused by legislation.

[87] In this connection the Government of Japan has requested the EU to note that any policy to embody the ideas of the Green Paper should avoid excessive control that would contravene the international legal order for the seas and oceans.

in most sectors. Once established, EU law, with a few exceptions, requires that any company established under the laws of one Member State must, as a Community undertaking, receive national treatment in all Member States, regardless of its ultimate ownership. Some of the state-specific investment regulations and barriers are summarized below.

France: Notification requirements apply to foreign investments, EU and non-EU, for acquisition of a stake of more than 5 per cent in the capital of a firm in the national defense, public safety, or public health sector. France continues to apply restrictions and reciprocity requirements to non-EU investments in a number of sectors, including transport. For the purpose of applying these requirements, the French government generally determines a firm's residency based on the residency of its ultimate owners rather than on the basis of the firm's place of establishment or incorporation.

Germany: The German government has introduced legislation to create a right of review and approval for planned investments by foreign entities of 25 per cent and more in German armament companies. Planned share acquisitions meeting the threshold must be submitted for approval to an inter-ministerial review.

Italy: In conformity with EU Treaty Article 43, Italy provides national treatment to foreign investors except in a few instances. The exceptions include limits to access to government subsidies, additional capital requirements for banks from non-EU countries and restrictions on non-EU airlines operating domestic routes.

6.2 Barriers in India

6.2.1 Road

The major barrier to development of the road industry in India is the fragmented industry structure and dominance of a large number of small unorganized operators. The large number of operators has been the result of lower capital requirements, ease of obtaining truck driving licenses and permits, and little expertise required in terms of educational skills. The small operators are involved mainly in physical haulage and depend on brokers and other fleet operators who, in turn, depend on booking agents to secure business; they are not in a position to perform the functions of aggregating, handling, and marketing. The middlemen/ intermediaries, which include the booking agents and the brokers, are the dominant players in the market and often fix freight rates. Such practices result in higher prices for the end user, lower profitability for truck operators, lower capacity utilization and poor quality of services

There are a number of barriers to inter-state movement of road freight in India. Freight vehicles are detained to check essential documents such as the registration book, driving license, permits (RTO checking) and also to check payment of commercial taxes such as sales tax, octroi and other local levies. In addition, detentions take place for booking traffic rule violations (police checking) and also at State borders (Border Post checking). Such barriers result in huge delays and transactions costs, and reduce the international competitiveness of logistics firms. They also create opportunities for bribes and other rent-seeking opportunities for state officials

Survey results indicated that almost all logistics companies use road as a means of transportation within India. Most companies report road conditions as poor.[88] There are a number of problems companies have faced in the road freight sector. The first major issue is of road infrastructure which makes it difficult for multi-axle vehicles to operate smoothly. This leads to overloading on national highways, and increase in accidents, higher fuel consumption and vehicle operating costs. Second, companies report large delays in inter-state movements. As mentioned above, inter-state movement is governed by a large number of rules and taxes, such as octroi payable at many state borders.[89] Logistics is also hampered by the lack of widespread use of containerized trucks, since it prevents quick transfers at ports and results in greater thefts at checkpoints.

Finally, the road sector has poor or non-existent labor policies. Truck drivers are poorly trained and even though there are a few formal institutes for driver training, there are practically none for associated areas such as loading/unloading, proper handling practices, etc. Truck drivers are largely between the ages of 18 and 40 and educated up to under-matriculation level. A high percentage of the drivers (88 per cent) are reported to have learned to drive without attending driver-training schools.[90] The present training infrastructure is much smaller than the demand; there are few schools for commercial vehicles training – one is run in collaboration with Ashok Leyland in Namakkal, Tamil Nadu and the one at Delhi is run by the Delhi Government and Maruti. Although there are other smaller institutes spread across the country, the quality of training in these schools is not measured and often not of a high standard.

6.2.2 Rail

The major problem in rail is the lack of a dedicated freight corridor. Indian Railways (IR) has a large number of social obligations such as provision of widespread access, carriage of essential bulk goods and low-cost passenger service. It fulfills its social service obligation by cross-subsidizing from freight to passengers which results in inflated freight tariffs.[91] The railway sector further suffers from severe financial constraints due to the politically-determined fare structure as well as wasteful operating practices. Resources are typically spread thin to respond to political demands for new passenger trains at the cost of investments in rail freight carriers. Inadequate rail corridors lead to massive delays, even for transportation between major Indian cities; for instance, the logistics survey points out that cargo takes 5-6 days to reach Delhi from Mumbai by rail. The second issue raised by logistic companies is of connectivity between railways and ports. The absence of proper connections leads to greater delays when rail transport is used; for instance, companies report that in Mumbai, Panvel has only a single track line that is directly connected to JNPT port. Overall, however, logistics companies report a lower incidence of problems with rail compared to road. The issues of bribes and multiple

[88] However, some companies feel that there has been an improvement in the road infrastructure compared to 10 years ago.

[89] It is worth noting that many states have abolished octroi; however, this has met with resistance from state mayors who are willing to abolish octroi only after identifying alternative sources of revenue.

[90] Vijayaraghavan (2007). *Impact of transportation infrastructure on logistics in India*.

[91] To cover the cost of running the railway system and ensure generation of a surplus, it is necessary to raise freight by 6% to 10% every year.

taxes seem to make road transport a bigger source of additional delay and costs for logistics operators compared to rail.

6.2.3 Sea/Maritime

The primary survey reveals that the major problem faced by logistic companies is congestion at ports. Most companies feel that existing ports are inadequately equipped to handle increasing sea-traffic. Sea cargo not only faces long clearance times, but also problems such as non-availability of containers, erratic window/idle time for vessels, and frequent breakdown of cargo handling equipment. On the shipping side, companies report delays due to lack of main lines in India; containers from an Indian port have to be trans-shipped and go through a hub port which considerably increases the time in transit. The other important issue raised by companies relates to connectivity of ports; ports are poorly connected to the hinterland and there are no assured timings for connections with container trains. Some companies mention problems with manpower at the ports. Some of these problems include constant labor union issues, lack of skilled labor for pilotage and operation of equipment (in spite of the large labor force), and absence of round-the-clock workers.[92]

6.2.4 Warehousing

The survey revealed inventory management is a problem in warehousing. Warehouses in India are extremely fragmented and on a small scale. Since warehousing facilities are small, they are typically managed by local clearing and forwarding (C&F) agents who have poor knowledge of warehousing technology. Companies also report high risk of damage to cargo due to poor warehousing practices. Finally, 3PL providers complained of difficulty in acquiring land for warehouses. The right place for warehouses are areas in proximity to air/sea ports; however, such areas are not easily available to private companies, so companies settle for warehouses that are one-tenth of the planned capacity due to land problems. 3PL logistics providers are particularly affected since often they cannot offer warehousing services and it impedes their ability to provide complete logistics solutions to clients.

Conclusion. Most of the barriers to logistics in India arise from infrastructural limitations. There are very few market access barriers – there is a great deal of foreign competition with foreign companies being treated at par with domestic companies. EU companies do not report any discrimination in licensing norms or information on domestic regulations and licensing practices. Companies do report some barriers in Mode 4 as certain examinations such as for Custom Handling Agents (CHA) can only be given by Indians.

[92] This is supported by previous studies on ports which state that the Dock Workers Act provides a significant amount of protection to dock workers and in some ports there is little control of the labor force by either the stevedoring company or the port authority. This has resulted in various malpractices, such as demanding "speed money" at the commencement of each shift prior to starting work, overmanning of all cargo handling operations, and disregard for safety rules.

Section 7: Extent of liberalization in India and EU in multilateral and bilateral agreements

This section examines the liberalization initiatives by the EU and India in bilateral and multilateral agreements such as the GATS. The GATS, which entered into force on January 1, 1995 is the first multilateral, legally enforceable agreement covering trade and investment in services. The GATS comprises a framework of general obligations, schedules of commitments, annexes, and ministerial decisions. The framework includes rules that cover, in most cases, all service sectors while the schedules of commitments specify for each country whether and to what extent foreign firms will be accorded market access and national treatment in specific service sectors. The GATS schedules follow a "positive list" methodology under which countries choose the service sectors for which they make commitments. When scheduling GATS commitments, WTO members generally use as a guide the Services Sectoral Classification List (W/120), a document based on the U.N. Provisional Central Product Classification (CPC) system. However, due to the relative newness of logistics in the services trade, it is not identified as a distinct industry on the W/120. Different countries have different views on the scope of the logistics sector and key services to be liberalized. Some countries have emphasized services auxiliary to all modes of transport while others have emphasized key sectors such as express delivery. These differing views may also be explained by different countries' negotiating strategies. The key proposals and current commitments on logistics are summarized below.

7.1 Proposals on Logistics Services

1. Hong Kong and China made a specific proposal with respect to the liberalization of logistics services in 2001.[93] The main objective of its communication is to propose a consolidated list of logistics and related services that could be used by Members in the negotiations in order to achieve commercially meaningful liberalization of logistics services.
2. A group of eight WTO Members submitted a joint communication on logistics services in 2004. This proposal is meant to further develop the ideas outlined in the proposals by Hong Kong and China. It also provided Members with a checklist of logistics services, including core logistics services and supporting services.[94] The checklist divides logistics-related services into three categories, namely, core freight logistics services, related freight logistics services, and non-core freight logistics services.[95] The proposal also outlined several areas where additional (Article XVIII) commitments would facilitate trade.[96]

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[93] Logistics and related services, Communication from Hong Kong, China, 28 March 2001 (CSS/W/68).

[94] Logistics services, Communication from Australia; Hong Kong, China; Liechtenstein; Mauritius; New Zealand; Nicaragua; Switzerland; and the Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu, 25 June 2004, TN/S/W/20.

[95] *Core freight logistics services* consists of services that fall under the sub-sector of "Services auxiliary to all Modes of transport" on the W/120 These services are identified as services that are integral to the provision of logistics services.
Related freight logistics services includes transport services for each mode (maritime, internal waterways, air, rail, and road transport services), specifically the sub-sectors related to freight transport and rental of transport equipment with and without operators Also included here are

3. A group of 20 countries submitted a joint statement in 2005 agreeing in principle on the importance of taking commitments in logistics services.[97] The sponsoring countries emphasized the importance of the availability of efficient freight logistics infrastructure and urged all Members to participate actively in the negotiations with a view to achieving substantial liberalization commitments in logistics services.
4. Five WTO Members submitted a communication on their objectives for the liberalization of logistics services in October 2005.[98] Referring to the checklist of logistics services, they suggest that Members aim, when making offers, to achieve new or improved commitments with substantial coverage of services in Core Freight Logistics Services, freight transport services and, as far as practicable, commitments in Non-Core Freight Logistics Services. The co-sponsors indicated that they are considering the possibility of pursuing these negotiating objectives through multilateral and plurilateral approaches, supplementary to the bilateral request and offer approach.

7.2 Current GATS Commitments on Logistics

1. A communication by Switzerland provides a good overview of the starting point for the current commitments in logistics.[99] Switzerland reviewed the schedules of commitments of 40 WTO Members, including India and the EU[100], and found that while the sub-sector of services auxiliary to all modes of transport is already very heterogeneous, the few commitments made by WTO Member States are even more heterogeneous. Generally speaking, there are few commitments from countries in this sub-sector. Some two-thirds of the Members considered made no commitments at all, while half the countries that did make commitments did so in only half or fewer of the CPC categories making up the sub-sector.
2. At the June session of the Council for Trade in Services (CTS) a group of 20 WTO Members, "Friends of Logistics", circulated a room document that was

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technical testing and analysis; and courier, commission agents', wholesale trade, and retail trade services.

Non-core services are identified as important for effective liberalization of logistics markets, meaning that such liberalization will not be commercially meaningful without commitments in these service industries. In this category, the proposal lists computer and related services, and packaging, management consulting, and related services.

[96] These include acceptance of electronic versions of trade documents; to permit logistics service suppliers to provide the listed services in combination, and to ensure that customs procedures not be unnecessarily burdensome.

[97] Joint Statement on the Liberalization of Logistics Services, Australia; Canada, Chile, Djibouti, the EC, Hong Kong, China, Iceland, Japan, Korea, Liechtenstein, Mauritius, New Zealand, Nicaragua, Norway, Panama, Peru, Singapore, Switzerland, the Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu and the US, 18 February 2005, TN/S/W/34.

[98] Objectives for Liberalization of Logistics Services, Communication from Australia; Hong Kong, China, Japan, Switzerland and the Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu, 27 October 2005, (JOB(05)/264.

[99] 82 WTO (2001), GATS 2000: Services Auxiliary to All Modes of Transport, Communication from Switzerland, S/CSS/W/68.

[100] The schedules that were reviewed by Switzerland are the following: South Africa, Argentina, Australia, Bolivia, Brazil, Bulgaria, Canada, Chile, the Czech Republic, Egypt, the European Union, Guatemala, Hong Kong,China, Hungary, India, Indonesia, Israel, Japan, Korea, Malaysia, Mexico, Morocco, New Zealand, Pakistan, Peru, Philippines, Poland, Romania, the Slovak Republic, Senegal, Singapore, Slovenia, Switzerland, Thailand, Tunisia, Turkey, the United States, and Uruguay.

updated at the end of August, 2005.[101] This document provides a statistical analysis of offers in logistics services tabled by WTO Members. The highlights of the note state that:

i) Out of the 61 offers that have been tabled, 41 have maintained existing commitments on logistics services;
ii) Out of the 20 offers which do not have existing logistics commitments, 5 have newly offered commitments on logistics services
iii) 15 of the 61 offers offer no commitments on logistics services;
iv) Out of the 41 offers that have existing commitments, 22 have offered improvements to existing commitments while 19 have offered commitments on new services sectors or sub-sectors.

Switzerland indicated that as logistics services cover a wide range of essential activities and sensitive sectors, the Friends of Logistics group will be further analyzing initial and revised offers.

3. A report by the United States Trade Commission in 2005 on logistics services analyzes the nature of commitments made by WTO members.[102] The report reiterates that most countries chose not to make extensive GATS commitments for freight transportation services. The study states that:

i) The greatest number of full and partial commitments was scheduled for management consulting services, which can be used as a proxy for supply chain consulting services. 69% of the possible schedule entries made by 49 countries on management consulting services represent full or partial commitments.
ii) The largest share of commitments in the transport sector focuses on road freight transport, primarily trucking services. Full and partial commitments accounted for 33 per cent of all possible schedule entries pertaining to road freight transport services.
iii) 31 countries scheduled commitments on three transportation management service segments.
iv) Full or partial commitments occupied 43 per cent of potential schedule entries for freight transport agency services; 38 per cent for other auxiliary transport services; and 29 per cent for storage and warehousing services.

The report concludes that, in general, WTO member countries have been more willing to make commitments in non-transportation sectors related to logistics services, particularly management consulting services

7.3 EU: Uruguay Round and Revised Offer

Most WTO members, including the EU, committed themselves to very limited liberalization in the Uruguay Round (UR). In the Uruguay Round, the EU consisted of 12 member countries, including Belgium, Italy, Germany, Ireland, Denmark,

[101] The active proponents of further liberalization in logistics services are referred to as the Friends of Logistics group.
[102] *An overview of the global market and potential effect of removing trade impediments,* May 2005. The United States International Trade Commission.

Luxembourg, Spain, the Netherlands, France, Portugal, Greece and the United Kingdom. Most countries were not very forthcoming when it came to undertaking commitments in government monopoly sectors such as transport. Among the subcategories of logistics services, the fewest commitments were made in rail and most in services auxiliary to all modes of transport. Commitments in each mode of transport of logistics in the Uruguay round are summarized below.

- **Rail:** There were no commitments listed in rail freight transport. Commitments were made only in maintenance and repair of rail equipment, where the 12 Member States kept Modes 2 and 3 open and Mode 1 unbound due to lack of technical feasibility.
- **Road**: Mode 3 in road freight transport within a Member State by a carrier established in another Member State was left unbound by all members. In addition, Italy required economic needs test to be conducted for transport within the country. Mode 1 was also unbound for all member countries in road freight.
- **Services auxiliary to transport**: In freight forwarding services and pre-shipment inspection, Modes 1, 2, and 3 were kept fully open. In storage and warehousing (other than ports), Modes 2 and 3 were open. Mode 4 was kept unbound for freight forwarding, storage and warehousing, and pre-shipment inspection
- Negotiations on **maritime transport** and its subcategories were suspended.

The EU submitted its revised offer in June 2005. Compared to the UR, the revised offer has a wider coverage of sectors and a larger number of participating member countries.[103] The revised offer lists EU commitments in the maritime transport sector and maritime auxiliary services. The Member States have given access to international maritime transport and provide for non-discriminatory use of their ports. However, new members have imposed new restrictions and most transport services for most old members continue to be governed by the regime from the Uruguay Round. Commitments in each mode of transport of logistics in the revised offer are summarized below.

- **Rail**: Partial commitments were made by member countries in three major categories: rail freight transport, maintenance and repair of rail equipment, and supporting services for rail transport. In rail freight transport, all Member States except Hungary left Mode 1, Mode 2 and Mode 3 unbound. Hungary kept Mode 2 open and in Mode 3 there is a requirement of permission from state or local authority. In maintenance and repair, only Hungary and Estonia have kept Mode 1 open; all other Member States have kept Mode 1 unbound. For Mode 3, commitments are unbound for Austria, Cyprus, the Czech Republic, Latvia, Malta, Poland and the Slovak Republic. In Sweden, Mode 3 operators are allowed, subject to space and capacity constraints. In rail supporting services, all Member States except Lithuania kept Modes 1, 2 and 3

[103] The EU Revised offer listed offers by 25 member countries, including Austria, Belgium, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, the Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden and the United Kingdom.

unbound. Lithuania has kept Modes 2 and 3 open under rail freight forwarding.

- **Road:** Road freight transport was unbound by all members in Mode 1. Mode 3 in road freight is subject to many limitations – all Member States have kept transport within a Member State by carrier established in another Member State (road cabotage) unbound. Additionally, Italy requires an economic needs test, Finland and Latvia require authorization which is not given to foreign-registered vehicles, and Sweden has limitations on the use of leased vehicles for commercial road operations. In international trucking (not there in UR), Modes 1, 2, and 3 are unbound by all except Estonia. Rental of Vehicle was kept unbound by all new members, while old members kept Modes 1, 2 and 3 open. In sub-category Maintenance & Repair, old members left Modes 1, 2 and 3 open. Sweden put restrictions in Mode 3 similar to rail services, i.e., operators to maintain terminal subject to space and capacity constraints. Finally, road supporting services was left unbound by all members except Latvia.
- **Maritime**: The EU maintains restrictions on maritime cabotage in its revised offer. Feeder services are not allowed in Austria, Luxembourg, Hungary, the Czech Republic and the Slovak Republic. In most other countries of interest like Germany, Italy, France, and Finland, feeder services are allowed only by authorization. Mode 4 in all categories of ships' crews and key personnel employed in relation to Mode 3 was left unbound by all Member States. There are no restrictions on Modes 1 and 2 in maritime services. Mode 3 for establishment of a registered company to operate a fleet under the national flag of the State of establishment was left unbound by all member countries except Malta and Latvia. Commitments were given in "other forms of commercial presence" by most Member States.[104]
- In **maritime auxiliary services,** for cargo handling services, Mode 1 is left unbound except for Latvia and Estonia. Mode 3 is subject to restrictions by Germany, Greece and Italy. Germany has a monopoly in the Port of Bremen, Greece has public monopoly in port areas and Italy requires an economic needs test. In storage and warehousing, Mode 1 is left unbound except for Latvia, Hungary and Estonia, and Mode 3 is kept open by most Member States. Other maritime auxiliary services such as customs clearance services, maritime agency services, freight forwarding services and rental of vessels with crew are unbound in most modes. Mode 3 is kept open for maritime agency and freight forwarding services by most member countries of interest. For customs clearance services, Mode 4 has requirements of residence for Denmark and nationality for Greece.
- **Services auxiliary to all Modes**: Cargo handling services are left unbound by all Member States in all modes except for Latvia, Estonia, and Lithuania. In storage and warehousing, Mode 1 was left unbound by all members except Estonia, Hungary and Latvia. Old members maintained their UR position in Modes 2 and 3. The new members – Cyprus, the Czech Republic, Malta, Poland, and the Slovak Republic – left Modes 2 and 3 unbound. In freight

[104] Other forms of commercial presence for the supply of international maritime transport services mean the ability for international maritime transport service suppliers of other Members to undertake locally all activities which are necessary for the supply to their customers of a partially or fully integrated transport service, within which the maritime transport constitutes a substantial element.

agency services and pre-shipment services, Modes 1, 2, and 3 are left open by all old members as in the UR, while the new members – Cyprus, the Czech Republic, Malta, Poland, and the Slovak Republic – abstained from any commitments.

A comparison of the commitments made by the EU in the Uruguay Round and the revised offer is summarized in Table 9.

Table 9: Comparison of EU Commitments in major logistics categories, Uruguay Round and Revised Offer

Logistics Category	Sub-category	Uruguay Round	Revised Offer (2005)
Rail Transport	Freight Transport		• In freight, except Hungary, all other members left Modes 1, 2 and 3 unbound. • Hungary kept Mode 2 open; in Mode 3, permission from state authority required.
	Pushing and Towing Services	No commitments	No commitments
	Maintenance and Repair of Rail Equipment	The 12 Member States kept Modes 2 and 3 fully open and Modes 1 and 4 unbound	Only Hungary and Estonia kept Mode 1 open.
	Supporting Services for Rail Transport Services		Rail freight forwarding and agency left unbound by all except Latvia
Road	Freight Transport	Italy required an economic needs test to be conducted under Mode 3 for transport within a Member State by carrier established in another Member State.	• As in UR, Modes 1 and 4 unbound. • Mode 2 left open by all except 9 members. • Mode 3 left unbound for transport within a Member State by carrier established in another Member State and subject to other limitations. • Italy retained the economic need test. • Poland and Spain unbound under Mode 3 • Under Mode 3, Sweden has authorization requirement for commercial road transport vehicle and does not allow usage of leased vehicle for such operation

Logistics Category	Sub-category	Uruguay Round	Revised Offer (2005)
	Rental of vehicles with operator		Sweden and Poland kept Mode 3 unbound.
	International trucking services		All members except Estonia kept it unbound across modes.
	Maintenance and repair services		Under Mode 3, Sweden allowed operators to maintain their terminal subject to space and capacity constraints. Latvia required authorization. Poland unbound
	Supporting services		Left unbound by all except Latvia
Services Auxiliary to All Modes of Transport	Cargo handling services		Modes 1, 2, 3 and 4 left unbound by all except Latvia, Estonia and Lithuania.
	Storage and warehousing services	Commitments made in storage and warehousing (other than ports). Modes 2 and 3 fully open and Modes 1 and 4 left unbound.	Only Estonia, Hungary and Latvia kept Mode 1 open. In Modes 2 and 3, Cyprus, the Czech Republic, Malta, Poland, and the Slovak Republic left it unbound.
	Freight forwarding services	In freight forwarding services and pre-shipment inspection, Modes 1, 2, and 3 kept fully open. Mode 4 unbound.	Freight agency services and pre-shipment kept open by all in Modes 1, 2, 3 except Cyprus, the Czech Republic, Malta, Poland, the Slovak Republic and Hungary.
Maritime Auxiliary Services	Maritime Cargo Handling Services		• In the category of cargo handling, Mode 1 kept unbound. • Mode 3 subject to restrictions by Germany, Greece, and Italy
	Container Station and Depot Services		• Poland unbound under Mode 3 • Remaining Member States of interest: none[105]
	Maritime Agency Services		• Germany has a monopoly in the Port of Bremen. • Mode 3 open for other countries of interest

[105] Public utility concessions or licensing procedures may apply in the case of occupation of the public domain.

Logistics Category	Sub-category	Uruguay Round	Revised Offer (2005)
	Storage and Warehousing Services		Mode 3 kept open by most Member States of interest except Poland, which is unbound
	Maritime Freight Forwarding		Mode 3 kept open by countries of interest
	Rental of Vessels with Crew		• France: Chartering of all ships is subject to prior notification • Austria, Poland, and Sweden unbound.
	Pushing and Towing Services		All Member States of interest: Unbound
	Supporting Services like Ship Agency Services		Modes 1, 3 and 4 kept unbound by all Member States of interest

Source: Compiled from EU Uruguay Round and EU Revised Offer (2005).
Note: Cells left blank mean no offers tabled; Maritime Services discussed in detail in the main text and not included in the table of comparison since the UR had no offers in maritime.

Apart from the revised offer, the commitments of two new Member States – Romania and Bulgaria – were submitted in 2007. The specific commitments made by the two new Member States are summarized in Table 10 below.

Table 10: Commitments made by Bulgaria and Romania in EU Schedule of Commitments (2007)

Category	Bulgaria	Romania
Cargo handling services	No commitments	No commitments
Storage and warehousing services	Modes 2 and 3 open Mode 4: no restrictions except the requirements mentioned in the horizontal section for Intra-Corporate Transfers and Business Visitors	No commitments
Freight Transport Agency/Freight forwarding services	Modes 1 and 2: Partial commitments Mode 3: Foreign persons to supply services only through participation in Bulgarian companies with 49 per cent limitation on equity participation and through branches.	No commitments
Pre-shipment inspection	Mode 3 : Partial commitments, same conditions as freight transport	No commitments
Other transport services, including provision of combined transport services	No commitments	No commitments

While Romania has not made any commitments in logistics categories, Bulgaria's commitments are largely similar to those of other EU member countries. Comparison of the UR and the revised offer suggests that the revised offer is marginally better than the UR. The largest difference is with respect to commitments scheduled for maritime services and maritime auxiliary services. While no commitments were scheduled in the UR in this sector, the revised offer includes full commitments in Mode 1 and Mode 2 of maritime services. However, in feeder services and maritime cabotage, Mode 3 and Mode 4 have several restrictions. In Mode 3, most EU member countries have offered commitments in "other forms of commercial presence" which underlines the EU policy of encouraging integrated/multimodal transport service within which the maritime transport constitutes a substantial element.

In road transport, rail transport and services auxiliary to all modes of transport, most old members have maintained the status quo. Modes 1, 2 and 3 in road freight and rail freight are left unbound by almost all members. Cargo handling services have seen no commitments, except for Latvia, Estonia and Lithuania. Storage and warehousing services have restrictions on Mode 1 and Mode 4. Except for maritime services in Mode 1 and Mode 2, the EU revised offer for logistics is quite restrictive and offer no substantial improvement over the Uruguay Round commitments.

7.4 EU: Bilateral FTAs

The EU has been a major driving force behind the spread of FTAs in the developing world in recent years. The EU has agreements, or is in the process of negotiating agreements, with the Middle East and North African countries, a substantial proportion of Latin America, the African, Caribbean and Pacific countries, and South Africa. A comparison of FTAs concluded by the EU with third countries suggests the agreements differ significantly in terms of their scope and contents in spite of following the provisions set out in GATS Article V:1 relating to the further liberalization of trade in services within economic integration agreements.[106] A recent report on EU-Developing Country FTAs suggests that limitations of product coverage substantially reduce the potential benefits of the agreements compared to full bilateral free trade and only the Mexico, Chile and Turkey agreements have trade-related commitments which are wider and deeper than the preferential reduction in tariffs.[107]

EU's FTA with Mexico (2000) and the Chile Agreement (2002) aim to establish a framework to encourage the development of trade in goods and services, including a bilateral and preferential, progressive and reciprocal liberalization of trade in goods and services. The EU trade in services agreement with both Chile and Mexico excludes air services, including domestic and international air transportation services and related services in support of air services and maritime cabotage.[108] For logistics services, some of the important areas where cooperation has been agreed upon include:

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[106] Critically, Article V:1(a) requires such agreements to provide 'substantial sectoral coverage', while Article V:1(b) adds that they must provide 'for the absence or elimination of substantially all discrimination… between or among parties'.

[107] Francois, J.F., McQueen, M., and Wignaraja, G. (2005) *EU-Developing Country FTAs: Overview and Analysis*.

[108] Aircraft repair and maintenance services, selling and marketing of air transport services, and computer reservation system services are however in the scope of the agreement.

- Exchange of information on the Parties' policies, especially regarding urban transport and the interconnection and interoperability of multimodal transport networks and other issues of mutual interest;
- Training programs in economics, legislation and technical matters for economic operators and senior civil servants; and
- Cooperation projects for transfers of European technology in the Global Navigation Satellite System and urban public transport centers.

The revised offer of the EU and the EU-Chile Agreement are not directly comparable since at the time of negotiation of the EU-Chile Agreement the EU had only 15 members.[109] However, the logistics commitments in "services auxiliary to all Modes of transport" are very similar to the revised offer. These include:

- No commitments in cargo handling services.
- Partial commitments in Storage and Warehousing services. Mode 4 left unbound.[110]
- Status not indicated in Freight Transport/freight forwarding services and Pre-inspection for Modes 1, 2 and 3. Mode 4 left unbound except for the horizontal section.
- Road Transport services have the most detailed commitments in logistics for the EU-Chile FTA. 15 members left Mode 1 unbound under market access and national treatment. Mode 2 was kept completely open by all 15 members. Mode 3 has restrictions similar to restrictions in the EU revised offer.[111] Mode 4 is unbound except for the horizontal section.
- In Railways, all 15 Members under the EU-Chile FTA abstained from making any commitments.

Chile's Schedule offered in the EU-Chile FTA indicates that Chile kept Modes 1, 2 and 3 open under major logistics sub-segments, i.e., Cargo handling services, Storage and Warehousing Activities and Freight Transport Agency services. Mode 4 was kept unbound except for the horizontal section. Under Roadways, Chile made partial commitments under Modes 1, 2, and 3 requiring that conditions laid down under the Agreement on International Road Transport be followed.

A comparison of the EU-Chile FTA and EU revised offer (2005) reveals that EU commitments in logistics are largely similar. The only difference is in road transport services, which is slightly more liberal in the EU-Chile FTA. Other studies have indicated that bilateral FTAs often fall substantially short of creating free trade between the EU and partner developing countries.[112] However, these agreements

[109] These 15 countries include Austria, Belgium, Italy, Germany, Ireland, Denmark, Luxembourg, Spain, the Netherlands, France, Finland, Portugal, Greece, Sweden and the United Kingdom.

[110] 15 EC members did not reveal their status in the EC-Chile FTA under Modes 1 and 2. Sweden abstained from making any commitments in Mode 3 in the EC-Chile FTA.

[111].Italy: For transport within the country, licensing subject to an economic needs test. Finland: Authorization required, not extended to foreign-registered vehicles. Sweden: Authorization required for commercial land transport service operations. Authorization is based on the applicant's financial situation, experience and capability to supply the services. Limitations on the use of leased vehicles for such operations.

[112] In particular, EU restrictions, both in product coverage and in rules of origin, adversely affect trade in agricultural goods and labor-intensive manufacturers and this significantly reduces the potential gains from trade liberalization from an FTA with the EU for the developing countries. For further

bring technical assistance to developing countries and the provisions for further negotiations may enable them to go significantly beyond WTO commitments in the future.

7.5 India: Uruguay Round and Revised Offer

India's Uruguay Round (UR) commitments were conservative both in terms of sectoral coverage and modes of delivery. Modes 1 and 2 were left 'unbound' for most of the sectors scheduled by India. Mode 3 was partially opened up with various restrictions such as foreign equity limits, local incorporation requirements, and quota on number of providers. Like most other countries, India did not undertake any sector-specific commitments in Mode 4. The sector-specific commitments did not cover several important sectors, such as energy, education, and transport. India did not make any commitments in any of the logistics categories of road transport, rail transport and services auxiliary to all modes of transport. Maritime negotiations were suspended in the UR.

Overall the UR commitments did not reflect the autonomous liberalization process which started in India in the early 1990s. The difference between the actual degree of openness in different sectors in India and the corresponding GATS commitments reflects the cautious approach adopted by India during the UR.

India submitted its revised offer (RO) in August 2005 and offered to undertake extensive commitments in different modes of supply in a number of sectors which were included for the first time. The Horizontal Section of India's RO does not have any Market Access (MA) or National Treatment (NT) restrictions in Modes 1 and 2. India also improved its horizontal commitments in Mode 3 and Mode 4. For instance, there is no longer any horizontal NT limitation in Mode 3 and Mode 4 on the grounds of special treatment to SC/STs or weaker sections of society.

In logistics, India's revised offer lists commitments in the maritime transport sector and maritime auxiliary services. Like in the UR, there are no commitments listed in road transport, rail transport and services auxiliary to all modes of transport. India has given substantial commitments in maritime services, with no restrictions on Modes 1, 2 and 4 in many maritime auxiliary services such as cargo handling, storage and warehousing, and freight forwarding services. Commitments in each mode of transport of logistics in the revised offer are summarized below.

- Road : No commitments listed in any mode
- Rail : No commitments listed in any mode
- Services Auxiliary to all modes of transport: No commitments listed except for maritime auxiliary services.
- Maritime: India has offered partial commitments in 'freight excluding cabotage and offshore transport'. In liner shipping, restrictions on Mode 1 include reservation of 40 per cent of cargo carried by liner shipping companies for Indian-flag ships and preference to Indian-flag vessels for government cargoes. Mode 4 is left unbound for ship crews and key shore personnel.

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details see Francois, J.F., McQueen, M. and Wignaraja, G. (2005). *EU-Developing Country FTAs: Overview and Analysis.*

Mode 2 is fully open. In Mode 3, for operating a ship under the Indian flag, a registered company must be established in India. Other forms of commercial presence in maritime are left unbound.

- Maritime auxiliary services: India has offered commitments in most sub-sectors including maritime cargo handling services, storage and warehousing services in ports, customs clearance services, container station and depot services, and maritime agency and freight forwarding services. In cargo handling, storage and warehousing and container station and depot services, there are no restrictions on Mode 2 and Mode 4. Mode 1 is left unbound due to technical infeasibility. Mode 3 has no restrictions except the requirements mentioned in the horizontal section for approval from the Foreign Investment Promotion Board (FIPB). Customs clearance services have the fewest number of commitments in this section, with Modes 1, 3 and 4 being left unbound. There are no restrictions on Mode 2. For maritime agency and freight forwarding services, there are no restrictions on Mode 1, Mode 2 and Mode 4. Mode 3 is subject to FIPB approval.

India's offer in maritime services and maritime auxiliary services is quite liberal, with full commitments in many categories and modes of maritime auxiliary services. India has not scheduled any commitments in other logistics sectors, such as road, rail and services auxiliary to all modes of transport. However, India has autonomously liberalized many of these sectors. Foreign Direct Investment up to 100% is allowed under the automatic route in road freight and services, such as cargo holding, and storage and warehousing.

A comparison of India's unilateral regime and revised offer in Mode 3 is summarized in Table 11.

Table 11: Comparison of India's unilateral regime and Revised Offer

Logistics Category	**Sub-category**	**FDI regime**	**Revised Offer (2005)**
Rail	Freight Transport	FDI not allowed	No commitments
Road	Freight Transport	No cap on FDI and entry through automatic route.	No commitments
	Rental of commercial vehicles with operator	No cap on FDI and entry through automatic route.	No commitments
Services Auxiliary to All Modes of Transport	Cargo handling services	No cap on FDI and entry through automatic route.	No commitments In maritime cargo handling, Mode 1 unbound due to technical infeasibility, Modes 2 and 4 fully open, Mode 3 subject to FIPB approval.

Logistics Category	Sub-category	FDI regime	Revised Offer (2005)
	Storage and warehousing services	No cap on FDI and entry through automatic route.	No commitments In maritime storage and warehousing, Mode 1 unbound due to technical infeasibility, Mode 2 and 4 fully open, Mode 3 subject to FIPB approval
	Freight forwarding services	No cap on FDI and entry through automatic route.	No commitments In maritime freight forwarding, Mode 1 unbound due to technical infeasibility, Modes 2 and 4 fully open, Mode 3 subject to FIPB approval
Maritime Transport Services	Freight Transportation	No cap on FDI and entry through automatic route.	In Mode 3, to operate a ship under the Indian flag, a registered company must be established in India. Other forms of commercial presence in maritime are left unbound.
	Rental of vessels with crew	No cap on FDI and entry through automatic route.	Mode 3 left unbound
	Pushing and Towing services	No cap on FDI and entry through automatic route	Additional commitments were made in use of port facilities by which pushing and towing services are provided on nondiscriminatory terms to international maritime suppliers.

7.6 India: Bilateral FTAs

Although India is a relatively late entrant in the regional setting, there is already substantial movement in terms of bilateral and Regional Trade Agreements (RTAs). Some of the trade agreements of India include the India-Sri Lanka Free Trade Agreement, trade agreements with Bangladesh, Bhutan, Maldives, China, and South Korea, the India-Nepal Trade Treaty, framework agreements with the Association of

Southeast Asian Nations (ASEAN) and Thailand, and the Comprehensive Economic Cooperation Agreement (CECA) with Singapore.[113]

While most Indian FTAs have tended to concentrate on goods, the CECA with Singapore is the first Indian trade agreement that includes services. The CECA was signed in June 2005 between India and Singapore and came into effect in August 2005. The Agreement was arrived at after thirteen rounds of negotiations spanning nearly two years since the signing of the Declaration of Intent in April 2003. Bilateral trade, investment and business linkages have gone up after the signing of the CECA, with the total FDI from Singapore to India increasing from US$893 million in September 2005 to US$2.127 billion in June 2007.[114]

For logistics services, the India-Singapore CECA commitments are largely similar to India's revised offer. There are no commitments in three major logistic categories: rail freight transport, road freight transport, and services auxiliary to all modes of transport. In maritime transport services, Mode 1, Mode 2 and Mode 4 are unbound. Mode 3 is subject to the same conditions as the revised offer – to operate a ship under the Indian flag, a registered company must be established in India. Other forms of commercial presence in maritime are left unbound. Maritime transport is more restrictive for Mode 1 and Mode 2 in the CECA as the revised offer has full commitments for Mode 2 and partial commitments in Mode 1.

The CECA also specifies commitments in maritime auxiliary services. In cargo handling, services, there are no restrictions on Mode 2 and Mode 4, Mode 1 is left unbound due to technical infeasibility, and Mode 3 has no restrictions except the requirements mentioned in the horizontal section. In maritime agency and maritime freight forwarding services, there are no restrictions on Mode 1 and Mode 2, Mode 3 has no restrictions except the requirements mentioned in the horizontal section, and Mode 4 is left unbound. There are no commitments tabled for storage and warehousing services in ports. While the revised offer lists commitments in nine categories of maritime auxiliary services, the CECA lists six categories in maritime auxiliary services.

An analysis of the Indo-Singapore CECA and India's revised offer (2005) reveals that India's commitments in logistics are largely similar, with CECA being marginally more restrictive in maritime services. However, as part of CECA 2005, both governments had signed Mutual Recognition Agreements (MRAs) in goods and services along with mutual recognition of the degrees and technical qualifications of each other's institutions. Both sides agreed to liberalize the visa regime on 127 categories of professionals. While at the multilateral level there has been little progress in Mode 4, the CECA has succeeded in making some forward movement in this mode beyond the GATS. Mutual recognition arrangements (MRAs) in bilateral treaties have the potential to promote a stable regime for temporary entry of natural persons for Indian professionals.[115]

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[113] For a complete list of all Indian trade agreements, see http://commerce.nic.in/trade/international_ta.asp?id=2&trade=i

[114] http://www.ipcs.org/southeastasia_publications.jsp?portal=npt

[115] However, reports indicate that two years after the signing of CECA the movement of Indian professionals to Singapore has not yet gained momentum. Singapore is reported not to recognize the technical and professional degrees of second-grade Indian institutes. Reports indicate that a

Section 8: India's Negotiating Strategy

It is evident from the analysis of the EU and India's revised offer and bilateral trade agreements that India and the EU have multilaterally and bilaterally liberalized several categories of services that form part of the logistics core activities. While India's commitments are primarily in the maritime sector and maritime auxiliary services, India has autonomously liberalized other logistic services, such as road freight and other auxiliary services. India's negotiating strategy is outlined for each logistics sub-segment by taking into account the barriers revealed in the primary survey, the EU's and India's multilateral commitments so far, and India's unilateral liberalization in the logistics sub-sectors.

8.1 Road Freight Services

Road freight did not see any improvement in commitments by the EU or India from the Uruguay Round (UR). For EU Member States, Mode 3 in road freight is subject to many limitations with all Member States keeping road cabotage unbound. There are additional restrictions by Italy, Finland, Latvia and Sweden. India should request additional commitments from the EU in the context of the TIA. In particular, India can request the EU to take full commitments, i.e., schedule "none" under MA and NT for Mode 3, particularly if India offers commitments in Mode 3 for road freight.

India has not tabled any commitments under road services in its revised offer of 2005 and in the CECA with Singapore. However, India has unilaterally liberalized the road sector. Foreign service suppliers can provide freight transport by road through joint ventures or wholly-owned subsidiaries. Foreign majority ownership of road transport enterprises is also permitted. India can therefore consider taking full market access and national treatment commitments in Mode 3 on freight transport by road. The road investment regime is already liberalized and such commitments will formalize the regime in place. Moreover, liberalizing Mode 3 in road freight might also bring in greater FDI in road development and construction. Logistics services are greatly affected by road infrastructure. The primary survey revealed that one of the major issues in the road sector in India is road congestion and while most companies use road as a means of transport, road infrastructure is rated poorly by all. Foreign investments in road freight have a strong likelihood of encouraging additional foreign investments in road construction.[116]

Apart from Mode 3, there is potential for liberalizing Mode 1 in road transport services. In recent times, information and communication technologies (ICT) have exerted an enormous influence on road freight transportation through the development of e-commerce, e-logistics and e-fleet management. Increasing computerization of the logistics market and sophistication of fleet management systems have given rise to demand for new applications such as Internet-based systems for matching cargos and

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more active role and collaborations by Indian and Singapore professional bodies are required to support government-level dialogue. http://www.ipcs.org/southeastasia_publications2.jsp?action=showView&kValue=2497&country=1016&status=article&mod=a

[116] 100% FDI is allowed under the automatic route for all road development projects. The government also provides incentives for road investments such as 100% income tax exemption for a period of 10 years, formulation of model concession agreements, and provision of grants/viability gap funding by NHAI for marginal projects.

trucks, real-time dispatching of trucks, monitoring of hazardous materials transport and guiding vehicles along low-risk routes using vehicle identification and mobile communication systems. India is in a good position to provide these services through Mode 1 due to its strength in IT and IT-enabled services. Although it is too early to predict the overall impact of ICT on road freight transportation, India can ask the EU for commitments in Mode 1 to gain from a new and developing form of trade in road freight services. All EU Member States have left Mode 1 unbound. India can request commitments from EU members in Mode 1, in particular from mid-sized countries that may not possess sophisticated transport management systems.

Mode 4 in road freight is kept unbound by all EU members. The EU divided Mode 4 into three major categories: intra-corporate transfers (managers, specialist and graduate trainees), business visitors, and contractual service suppliers (employees of juridical persons, independent professionals). Management consultancy is among the sectors where contractual service suppliers (CSS) can offer their services. Mode 4 issues in logistics are largely similar to Mode 4 issues in other sectors. The definitions of intra-corporate transfers are narrow and restrict the activities that can be undertaken by foreign professionals, especially managers. The survey indicates that logistics firms face difficulties in obtaining entry permits and work visas if they do not have a commercial presence or established business in the EU (in spite of the category of CSS not requiring a commercial presence in any Member State). Finally, the examination requirements for professional competence in road freight transport vary considerably across EU Member States. India needs to ask for greater harmonization for market access across EU Member States.

Another important issue related to Mode 4 in the road sector in India is poor driver training and operational training for areas like loading/unloading trucks and cargo handling practices. Lack of proper training and standards also leads to associated problems such as pilferage, corruption and theft. India should seek cooperation from the EU for training programs for road and vehicle operators. Development of common training programs and acceptable standards will also make it easier for Indian companies and professionals to receive an EU community license and certifications of professional competence necessary for road transport operators in the EU.

8.2 Rail Freight Services

Rail freight has seen very few commitments by the EU and India to date. In the 2005 revised offer, all EU Member States except Hungary left Mode 1, Mode 2 and Mode 3 unbound in rail freight transport. Hungary too has additional restrictions on Mode 3 in the form of permission from state or local authority. The largest number of commitments by the EU is in Mode 3 of rail maintenance and repair where, except for eight Member States, all EU members have taken full commitments.[117] However, Mode 1 and Mode 4 have been kept mostly unbound.

India did not offer any commitments under rail services in its revised offer of 2005. In India, FDI is not allowed in three main sub-sectors of rail transport services, namely, passenger transportation, freight transportation, and pushing and towing services. Due

[117] These eight countries include Austria, Cyprus, the Czech Republic, Latvia, Malta, Poland, Sweden and the Slovak Republic

to the monopolistic nature of rail transport services, there is currently limited scope for trade under Mode 3 in the rail freight segment of logistics. However, the Indian Railways have recently revealed plans of inviting private sector participation in new routes, railway stations, logistics parks, cargo aggregation and warehouses. Due to increasing containerization of cargo, container movement has been opened to competition in the Railway Budget of 2006-07. So far, container movement by rail was the monopoly of CONCOR (63% owned by the government). The Railway Budget of 2006-07 included a proposal to permit private companies to run container trains for export-import as well as domestic traffic; the scheme is open to all Indian companies or joint ventures with a minimum annual turnover of Rs. 1 billion.[118] 14 private sector Indian entities, including logistics companies, have been approved for running container train operations.[119] Given the demand for transportation of containerized cargo, the government might allow FDI in container transportation in the future. Mode 3 can also be encouraged for certain segments of rail freight such as warehousing where FDI is already permitted. India can offer binding commitments in warehousing in exchange for commitments in other areas of export interest.

The main problems outlined by companies in the primary survey concern the lack of a dedicated rail corridor and connectivity to ports for freight. Indian Railways is planning to develop new Dedicated Freight Corridors (DFCs) on the Western and Eastern routes at an estimated cost of Rs. 281.81 billion. The corridors will run across states, connecting various production centers to sea ports and provide faster transit of cargo. However, the development of the DFCs is highly capital- and knowledge-intensive.[120] The Indian government is exploring options for foreign participation and investment. The prospect of the Japanese Government providing assistance for the dedicated freight corridors is being explored.[121] India can also seek assistance and cooperation from the EU in developing the freight corridor.

There is the possibility of trade by Mode 4 with the EU. India has a comparative advantage in the export of professionals to provide consultancy and project management services in railways. RITES provides consultancy services in the fields of transport, infrastructure and related technologies, and has undertaken projects in Europe. In 2001, RITES was engaged to provide off-shore design support services to modify the overhead electric traction lines required to modernize the West Coast

[118] The validity for permission will be for 20 years, which may be extended by another 10 years, if the operator performs well.

[119] The private entities include Reliance Infrastructure Engineers Pvt. Ltd, Adani Logistics Ltd, Boxtrans Logistics (India) Services Pvt. Ltd, Gateway Rail Freight Pvt. Ltd, Hind Terminals Pvt. Ltd, MSC Agency (India) Pvt. Ltd, India Infrastructure & Logistics Pvt. Ltd (a subsidiary of APL), and Pipavav Railway Corp. Ltd.

[120] Under the first phase, two corridors will be built that connect Delhi in the north to Mumbai in the west and Delhi with Kolkata in the east. The estimated investment on both the routes will be around Rs. 28,181 crore. Indian Railways is also conducting a feasibility study for four other freight corridors with a total route length of approximately 8,000 kms. Therefore, Dedicated Freight Corridors of a total of 11,500 kms are being planned by the year 2015 with an investment requirement of Rs. 100,000 crore.

[121] Japan and India are exploring the possibility of a Japanese STEP loan for the Dedicated Multimodal High Axle Load Freight Corridor (DFC) between Delhi-Mumbai. The Japanese International Cooperation Agency (JICA) submitted its final report to the Ministry of Railways in October, 2007. The appraisal of the project is likely to commence shortly after technical issues relating to traction are resolved to the satisfaction of both sides. http://www.embassyofindiajapan.org/economy.html

Main Line in the UK for high-speed passenger services.[122] However, it is worth noting that competition is limited in the EU since foreign professionals have difficulties in understanding specification requirements and safety assessment which are very particular to the EU. Reports indicate that in many European countries, including the UK, professional qualifications from India are not recognized and Indians are required to seek technical licenses for providing engineering services. Such barriers need to be discussed under the broader negotiations related to temporary movement of professionals.

8.3 Maritime Services

The EU and India have adopted a pro-active policy in all aspects of maritime and port services. The EU and India revised offer (2005) has allowed access to international maritime transport and provide non-discriminatory use of their ports. The EU maintains no restrictions on Mode 1 and Mode 2 in maritime services; however, it has restrictions on maritime cabotage, feeder services and Mode 3. Mode 3 is left unbound by all member countries except Malta and Latvia for establishment of a registered company to operate a fleet under the national flag of the State of establishment.

India has opened its shipping sector and foreign flag vessels are allowed to operate in the country on a competitive basis. India does not have any restrictions on market access and national treatment under Mode 2 (consumption abroad). Mode 3 is also open and there are no restrictions on FDI in maritime services with 100% FDI being permitted under the automatic route. The visible limitations on market access in Mode 1 are reservation of 40 per cent of cargo carried by liner shipping companies for Indian-flag ships and the policy of giving preference to Indian-flag vessels for government cargoes.[123] The EU may ask for removal of favorable treatment to national flag vessels and restrictions on government cargo. However, these reservations are not likely to affect logistics operators in India and hence removal of these reservations is not required on the logistics platform. The EU may also ask for commitments from India in Mode 3 for "other forms of commercial presence". Most EU countries have given commitments for this category in the EU revised offer; however, this involves commitments in multimodal transport and would entail dealing with services and sub-sectors (such as road and rail transport) which go beyond the maritime transport sector.

The EU and Indian maritime sector is considerably open and there seems to be limited scope for further liberalization. However there are several issues which can be raised in the context of the TIA.

1. Mode 3 is liberalized in a range of activities for maritime auxiliary services in EU from cargo handling to maritime agency services for most Member States. However, there are problems with harmonization of port policies across EU Member States. Policies on charging port users vary across EU member countries, leading to significant administrative burdens. The logistics bottleneck exercise conducted by the European Commission in 2007 indicated that there are

[122] Mukherjee, ICRIER, Working Paper 119.
[123] Foreign flag ships can participate in carrying such cargo, but Indian-flag vessels have the first right of refusal.

differences in technical standards like maximum allowable weight of vehicles. India can ask the EU for greater harmonization of port policies across Member States.

2. Mode 4 in maritime services can further be encouraged through the TIA. The EU has adopted an extensive legislative framework for seafarers, including legislation that transposes into Community law the international training and certification requirements of the STCW Convention[124] and specific legislation establishing a procedure for Community-wide recognition of certificates of competency issued by third countries. India should ask for a centralized and harmonized recognition procedure for Indian seafarers, given India's strength in qualified maritime labor.
3. Logistics is most affected by port services under the maritime sector. The primary survey pointed out most companies face severe congestion at Indian ports which causes significant time and cost over-runs for logistics companies. Apart from lack of infrastructure, congestion also results from poor port management practices, and limited technical staff for skilled operations, such as pilotage. India should ask the EU for cooperation in port management and training to help build more productive and efficient ports in India. Areas of cooperation could include training of key port and customs officials, methods for streamlining procedures and reducing excessive documentation.
4. India and the EU are engaged in negotiations for a maritime agreement. Commitments in the logistics maritime segment should be taken in accordance with the broader maritime agreement between India and the EU. In particular, commitments should be consistent in the following maritime areas: i) International transport (freight) ii) Access and use of ports facilities iii) Maritime auxiliary services (maritime cargo handling, storage and warehouse services, customs clearance services, container station and depot services, maritime agency and maritime freight forwarding services) iv) Multimodal activities v) Definitions. India and the EU should commit to definitions as specified in the maritime agreement. It is important to adopt clear and consistent definitions in the TIA and maritime agreement to avoid confusion while scheduling commitments in both agreements. It is to be noted that the draft maritime agreement states the scope of maritime auxiliary services as including only maritime cargo handling, storage and warehouse services, customs clearance services, container station and depot services, and maritime agency services; however, it does not specify definitions of these services.[125] It would be better for India to clarify the definition of these services (as specified in India's revised offer) for the maritime agreement and the TIA.

8.4 Services Auxiliary to All Modes of Transport

The EU made a varied range of commitments for services auxiliary to all modes. While there are no commitments in any modes for cargo handling services by most member countries, freight transport agency and pre-shipment services inspection are left open in Modes 1, 2 and 3. EU commitments reflect the regulatory characteristics of the individual services with no commitments being offered in cargo holding since these services are provided mostly by monopoly companies and ports in most EU

[124] Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW Convention). The STCW Convention was the first to establish basic requirements on training, certification and watchkeeping for seafarers on an international level.

[125] Draft maritime agreement India and EU, 06/07/2007, Ministry of Commerce.

countries. There is no improvement of EU commitments in services auxiliary to all modes of transport over the Uruguay Round. Mode 3 is left unbound by most member countries in cargo handling and storage and warehousing. India can ask for binding commitments in these sectors in Modes 1 and 3. It is to be noted that EU has offered commitments in Mode 3 for maritime auxiliary services, such as maritime cargo handling, and storage and warehousing.

India has not tabled any commitments for services auxiliary to all modes of transport apart from auxiliary services in the maritime sector. However, India has autonomously opened up all the sub-sectors under services auxiliary to all modes of transport and FDI up to 100 per cent is allowed through the automatic route. Interviews in the primary survey revealed that EU companies such as Rhenus Logistics, Broekman-Group Courcan Cargo, and Geodis are operating in freight transport agency services and Maersk Line in storage and warehouse services. India can offer to bind the existing regime with Mode 3 commitments in this sector in exchange for binding commitments from the EU in Mode 3. India can also offer commitments in Mode 1 and Mode 2 along similar lines of the offer in maritime auxiliary services in exchange for reciprocal commitments from the EU. In Mode 4, the EU may ask for removal of nationality requirements for customs clearance agent services.[126] However, it has been pointed out that due to security reasons it would be difficult for India to meet this request.[127]

Another important area of cooperation between India and the EU is in warehousing management. The primary survey revealed that companies report high risk of damage to cargo due to lack of specialized warehousing skills. India should seek the EU's cooperation in development of proper handling practices, use of warehousing equipment and use of warehouse management systems (WMS).

8.5 Multimodal Transport Services

Door-to-door transport performed by multimodal transport and logistics services providers is expected to grow with greater use of ICT, changes in business practices and growth in international trade. The European Community supports and promotes the development of inter-modal freight transport both domestically and internationally. The EC has adopted a number of programs such as the Marco Polo program, motorways of the sea and a proposed directive on standardization and harmonization of inter-modal loading units to promote multimodality within the EU. However, various problems exist with multi-modality in EU – the logistics bottleneck exercise conducted by the European Commission in 2007 indicates several problems such as lack of integration of transport documents in the multimodal supply chain, time-consuming and complex reporting systems, and a lack of interfaces between the land and maritime sides. In the EU revised offer, the provision of Combined Transport Service is listed under other transport services – EU Member States have left all modes unbound in this area. The EU might ask India for commitments in multimodal services, given their emphasis on integrated logistics.

[126] In India, to obtain a license for custom clearance agent services, there is a need to pass an exam, a pre- requisite for which is that the person must an Indian national.
[127] See A. Mukherjee and R. Sachdeva (2004).

An important issue that arises in connection with multimodal transport is whether an agreement has been reached with respect to the definition of the concept of "multimodal transport". While the *Maritime Model Schedule* (1993 and 1996) includes specific wording on multimodal transport, elements of the relevant text contained in both versions remain bracketed. Meanwhile, the Logistics Services Checklist has dropped the concept of multimodal transport altogether. Thus, India would need to first clarify or specify the scope of the potential commitments on multimodal transport.

Multimodalism is at a very nascent stage in India. The Government of India passed the Multimodal Transport of Goods Act in 1993 which provides the legal framework for promoting inter-modal transportation in this country. Currently there are more than 300 multimodal operators and foreign multimodal operators are allowed to operate under this Act. However, multimodality has a number of bottlenecks in India including poor connectivity of ports to the hinterland, multiple agencies for processing documents, and little exchange of computer data among operational partners, such as customs, ports, inland terminals and shippers involved in container trade transactions. Multimodal transport involves various regulatory regimes in India, and has high transaction costs since it deals with numerous services, sub-sectors and transactions (such as road and rail transport). In light of the current situation, India should not offer any commitments on multimodal transport in the TIA.

8.6 Non-Freight Logistics

Non-freight logistics primarily includes management consultancy services. The EU has no restrictions on management consultancy services in Mode 1, Mode 2 and Mode 3 in the revised offer (2005). Mode 4 is left unbound except as indicated in the horizontal section. India should leverage its strength in Information Technology (IT) for trade in logistics software development through Mode 1 and Mode 4. This includes development and management of logistics planning and co-ordination systems, development of automated trade systems; customs permit applications, real-time control and event management systems and web services. As with road freight, increasing the automation of the logistics market has given rise to demand for new transport management applications such as real-time dispatching and inventory management using Radio Frequency Identification tags (RFID).[128] As out-sourcing logistics functions increasingly become the norm, companies in Europe will be seeking innovative and cost-effective solutions to their IT needs in logistics and transportation. This gives rise to great opportunities for Indian companies to provide logistics and related services in Europe. India has substantial offensive interests in Mode 1 and Mode 4 for IT-enabled logistics services. Increased trade will also aid the development of logistics domain knowledge and the adoption of new technologies such as RFID in India. India should push for greater commitments in these categories under the negotiations related to IT-enabled services in exchange for Mode 3 commitments in freight logistics.

[128] Radio-frequency identification (RFID) is an automatic identification method, relying on storing and remotely retrieving data using devices called RFID tags. Throughout Europe, and in particular in Paris, Lyon and Marseille in France, Porto and Lisbon in Portugal, Milan, Turin, and Florence in Italy, and Brussels in Belgium, RFID passes conforming to the Calypso (RFID) international standard are used for public transport systems.

Section 9: Reforms

Logistics services play a critical role in international trade. A reliable and efficient logistics supply chain can ensure timely and cost-effective delivery of goods and hence facilitate international trade in a range of other products. Globalization has increased the importance of efficient logistics and the "cost of time" has become a critical factor from the perspective of exporters, importers and suppliers of logistics services. While the Indian logistics industry has grown significantly in recent years, its growth is constrained by a number of factors. Transportation is an essential component of logistics and constitutes the backbone of the entire supply chain. India's extensive transport system network (rail, road, sea, inland waterway and air) has expanded rapidly since independence and liberalization and/or privatization have taken place in virtually all transportation segments of the logistics supply chain. However, further reforms are required for the logistics sector to be globally competitive and keep pace with the country's booming domestic and international trade.

Reforms in Road Freight Sector: India's road network is extensive, but most of it is poor quality which is a major constraint for logistics operators. The major arterial routes have low capacity and suffer from poor maintenance. There have been some promising initiatives in the road sector. The National Highway Development Programme (NHDP) has dramatically changed the country's roadways with the golden quadrilateral connecting the major metros of Delhi, Mumbai, Chennai, and Kolkata as well as the North-South and East-West corridors. While it is important to continue the focus on physical infrastructure development, the priority for road network should be to concentrate on maintenance rather than construction alone. This would help improve India's road network at a relatively lower cost. Second, a system for charging road users should be put in place. For instance, trucks often get away with overloading which leads to damage and undue wear and tear on roads. User charges are necessary to encourage more responsible use of the roads. The system of charging users should be nationally consistent and enforced equally in all states.[129] Third, it is important to review the incentives that create small-sized operators in the trucking sector, since it creates many distortions in the industry structure. Several studies have pointed out that transport operator cooperatives can help the small operator to derive economies of scale in marketing, operating and sharing of information.[130] A cooperative effort would also provide financial aid and eliminate some of the intermediaries in the supply chain process. [131] State governments can play an important role in encouraging operators based in the state to form such cooperative units of operators.

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[129] Although there are systems for charging road users, overall charges are currently reported to be too low and not allocated in keeping with wear and tear on the roads. Singh, N. K. and Wallack , J. S. (2005), *Moving India: Policies and Priorities in Transport.*

[130] Sriraman, S.(2006), *Competition Issues in the Road Goods Transport Industry in India with special reference to The Mumbai Metropolitan Region*.

[131] For instance, if a cooperative society is registered with the Indian Bank Associations (IBA), it enables operators to borrow against documentary bills accompanied by the lorry receipts and to discount or purchase bills drawn by their customers and accompanied by lorry receipts. Currently, as per the website of the IBA (www.iba.temp.directi.com), only 652 transport operators are registered with the IBA under their approved list.

Legal and administrative reforms are needed in the road sector for India to function effectively as a single market. Truckers should have the same right as the railways to travel inter-state with a minimum of delays. While octroi has been abolished in Delhi and Union Territories by the central government, some state governments continue to impose octroi to raise revenues. The state governments should be encouraged to carry out audits of existing regulations and review the checkpoints administered by the States that restrict smooth flow of freight. [132]

There is need for changes in regulations that govern the road transport sector such as the Motor Vehicles (MV) Act. A 2005 report by the World Bank stated that deficiencies related to motor insurance such as lack of provisions regarding a statute of limitations, liability limits and thresholds for claims adjudication need to be removed by amendments to the MV Act of 1988.[133] The MV Act emphasizes issues related to revenue and important provisions related to aspects such as axle load controls, safety, fuel conservation, and environmental protection need to be given more attention.[134] Regulations need to encourage more efficient use of trucking and road capacity that is in place.

There is an urgent need to address labor skills issues in the road sector. Truck drivers are the most neglected and untrained set of workers in the logistics sector. There is an urgent need to set up more specialized institutes and curriculum designed for this industry. Companies, on their part, should adopt practices to employ better and skilled drivers, create better facilities for drivers and increase remuneration to attract better talent. Companies also need to provide need-based training to drivers, apart from the regular licensing and refresher courses done by the government.[135] The government needs to work closely with industry to identify skills that are in short supply and take measures to set up training facilities accordingly.

Reforms in Rail Freight Sector: Railways can be the most efficient manner of shipping freight long distances as well as connecting the country's logistic entryways – ports and airports – with the hinterland. Railway transport is fuel-efficient, environmentally friendly, and safer than roads. However, the potential of rail freight is far from realized in India.

IR needs to urgently separate its commercial and social activities. A system of compensation for railways social services needs to be put in place so that IR can become financially viable. IR can gain from the restructuring experience of

[132] Some states like Gujarat have initiated measures to have computerized inter-state check posts. Through the use of computers and other electronic devices at 10 remote inter-state border check posts in Gujarat, public officials have reduced corruption and significantly increased the state's tax revenue by automating the highway toll and fine collection system. Future plans include integrating payment of sales tax on the goods carried on the vehicles.

[133] World Bank (2005), *Road Transport Service Efficiency Study*, mimeograph, World Bank, Washington D.C.

[134] A proposal for amendment of the Motor Vehicle Act was approved by the Union Cabinet on March 1, 2007, and a Bill was introduced in the Rajya Sabha on May 15, 2007, which has since been referred to the Department-related Parliamentary Standing Committee for further examination.

[135] For example, drivers who are engaged for transporting hazardous substances like petroleum, chemicals, and explosives should be given specific training on these products and related safety procedures

international railways around the world.[136] It has been pointed out that European railways have clearly identified the extent of public obligation and then entered into contracts with the government to ensure state funding to meet the same.[137] Similar initiatives are required in India. Financial viability can also be encouraged by rationalization of the portfolio of projects undertaken by IR. About 70% of new rail investments are at present considered to be politically driven and unremunerative.[138] Schemes that cannot be justified on economic grounds need to be carefully scrutinized and dropped or deferred if not deemed absolutely necessary.

The railways have introduced several schemes to encourage private participation in areas such as catering, wagon ownership and leasing and joint ventures for rail infrastructure projects. These efforts were, however, limited in scale and scope. Reforms are required to encourage significant private participation for new projects such as the construction of a dedicated freight corridor. The Dedicated Freight Corridor aims to exclusively carry freight in a core, dedicated track isolated from normal IR traffic and passenger trains. The DFC will help the logistics industry in several ways. The first benefit that would accrue is faster transit and timely delivery with reduction in freight travel time to 2 days from end to end. Second, there would be reduction in freight costs, since double stack trains and transportation of larger volumes should translate into lower freight cost per ton. Logistics parks to be developed on the DFC could promote multimodality by providing reliable connectivity of trains to ports and airports. The DFC is an ambitious project of the Indian Railways. Private sector partnership is vital for many components such as project design and implementation, including track-laying, signaling and manufacture of upgraded rolling stock, locomotives, and a computerized system of billing and rake monitoring. It is necessary to harness enthusiasm among private investors by streamlining administrative and legal procedures for private participation. Revenue protection is important since the private sector will be interested in investing only if a minimum realistic amount of revenue is guaranteed and also if they are provided with appropriate safeguards against changes in political climate or regulatory risk. The logistics park would need proper management by logistics experts with little intervention from Indian Railways. Contract enforceability is also important since it is necessary to provide adequate safeguards against the failure of enforcement of critical activities by the private sector. For successful implementation of the DFC, the government needs to follow a structured approach with targeted milestones and clear policy directives for private sector participation.

Reforms in Maritime and Ports Sector: In spite of significant improvements in performance measures such as average turnaround time and pre-berthing time over the past 5-10 years, India's performance still lags behind other ports worldwide.[139]

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[136] The railways play different roles in different parts of the world. France, Germany and Britain have sophisticated railways with the prime objective of providing quality services in both passenger and freight movement. The USA, Canada and Brazil, due to the long distances involved and unequal distribution of population, attach more importance to freight traffic.

[137] Mukherjee, A. and Sachdeva, R. (2004).

[138] Seventeen intercity trains called Jan Shatabdi were introduced in 2002-03 by the Indian Railways without any market survey of the demand for such services. The performance of some of these trains has been so poor that the IR is contemplating canceling the services.

[139] The average turnaround time in Indian ports increased marginally from 3.5 days to 3.6 days in 2006-07. The pre-berthing waiting time at major ports on port account increased from 8.77 hours in 2005-06 to 10.05 hours in 2006-07.

There are also significant inter-port variations in pre-berthing time and productivity across ports in India.[140] From the data pertaining to port efficiency parameters, reports indicate that there is under-utilization of resources at Indian ports, with ships having to wait at anchorage or berth to avail of the services.[141] Servicing of vessels and rate of handling of cargo are mostly affected by the equipment available at ports. The cargo handling equipment/ machinery in Indian ports were commissioned years ago and do not conform to the requirements of modern vessels.[142] The National Maritime Development Program (NMDP) has suggested 52 proposals for procurement, replacement and upgrading of port equipment. Given that such upgrading requires massive investment and substantial planning, it is necessary to explore more options to improve port performance. One method to immediately improve port performance is by removing bottlenecks in port connectivity to inland transport. The roads within most of the ports are narrow and not designed to handle the present traffic and load. This results in traffic congestions and delays in feeding and evacuation of cargo. Synchronizing maritime operations with landside operations and efficient management of traffic flow within the port can greatly enhance the performance of existing ports.

A draft report by the Department of Shipping in 2007 outlines several recommendations to increase the efficiency of Indian ports and bring it on par with international standards. Some of the recommendations need to be implemented immediately for logistics companies to compete in international markets.

- To strengthen the roads to and within the ports, the report recommends that it should be mandatory for ports to invest in 4-lane RCC roads laid using state-of-the-art technology within the port area.[143] The port should also immediately implement unidirectional traffic flow to eliminate criss-crossing and traffic congestion.
- Upgrade information technology (IT) to track goods and expedite the customs process. The implementation of Electronic Data Interchange (EDI) has facilitated the instant access and transfer of information. However the report points out that real-time implementation of EDI is minimal in India and consists of the proprietary message exchange format formulated by Customs, which is not compatible with any international standards such as UNEDIFACT.[144] The port community information exchange is a combination of paper and electronic components and the information bottleneck is estimated to contribute to 40% of the documentation. In the port of Singapore, a single-window environment is available for users to access all the statutory bodies. India needs to develop a port community system where stakeholders can interact with all government agencies through a single interface by

[140] While the average turnaround time in 2006-07 for JNPT is 1.67 days, in Haldia (Kolkata) it is 3.97 days and in Kandla 5.46 days.

[141] *Report on Dwell time*, Government of India, 2007.

[142] Sophisticated container handling equipments like Quay Gantry Crane (QGC) are available only in a few ports like Chennai, Cochin, Mumbai, Vizag and JNPT and the rest of the ports are left to handle containers with conventional cranes or the vessel's cranes. Further, the correct types of cargo handling accessories like container spreader, special gears for handling wood pulp, newsprint, logs etc., required by the trade are either not available or are insufficient.

[143] RCC stands for Road Construction Content

[144] UNEDIFACT stands for United Nations Electronic Data Inter Change for Administration, Commerce and Transport.

UNEDIFACT standards. The backbone for port operations needs to be strengthened so that every asset of the port from quay cranes, mobile cranes, and cargo handling equipment to the movement of cargo/containers can be managed and co-coordinated by the system.

- The inflexible labor regime also continues to dampen the efficiency of major ports Labor rationalization has been a politically difficult area, as the unions at the major port are particularly strong. Enforcement of discipline amongst the unionized workforce is difficult and results in poor work ethics. The major ports in the country are not working 24x7x365 on account of statutory holidays, time lost during shift changeovers, etc. The report suggests two important measures to increase labor productivity: rationalizing the Manning Scale by implementing the tribunal award on manning scales in all ports and training the workforce to undertake multi-skill and multi-tasking activities. Port labor reforms have assumed a lot of significance since overstaffing and inefficiencies in labor operations are major deterrents in the path of private investment in port facilities. The ports should also continue to offer attractive Voluntary Retirement Schemes (VRS) to reduce the labor strength in Indian ports and bring it closer to international standards.

Apart from ports, there is urgent need for a plan for manpower training and deployment in the shipping sector. Shipping firms and regulators have been grappling with a severe shortage of skilled maritime manpower. There are three training institutes established by the government and 124 training institutes in the private sector approved by the Director General of Shipping that impart pre-sea and post-sea training in various disciplines.[145] Over the next decade the global demand for officers is expected to range from 25,000 to 60,000, depending on the growth of the shipping fleet. According to a BIMCO/ISF Manpower Update, globally there will be a shortage of 46,000 qualified officers by 2010.[146] While the quality of training in India is among the best in the world, the present output of 6,000 ratings and 4,000 officers annually is short of the demand for quality seafarers. Moreover, industry leaders state that only about 40 per cent of Indian officers work on Indian vessels,[147] mainly due to the fact that officers working on foreign vessels get a higher income owing to a different tax structure. Although the government has adopted pro-active measures to set up maritime training institutes, the high rate of exodus to foreign ships could make it difficult to get the required number of officers. Hence, apart from training, the government should focus on making other conditions amenable for Indian maritime officers. This includes increasing awareness of the opportunities and benefits available in the professional segment, removing discriminatory tax rules for Indian crews, and recruiting graduates from states untapped by maritime jobs. The government can consider the recommendations of INSA[148] to levy a flat tax on all Indian seafarers irrespective of their residential status and/or the flag status of the

[145] The training institutes established by the government include the training ship 'Chanakya', Marine Engineering and Research Institute (MERI), Kolkata, Marine Engineering & Research Institute (MERI), Mumbai, and LBS College of Advance Maritime Studies & Research, Mumbai.

[146] The BIMCO/ISF Manpower Updates are regarded as the most comprehensive assessment of global supply of and demand for merchant seafarers.

[147] CII-KPMG, 2007.

[148] Indian National Ship-owners Association

shipping company they work for to provide a level playing field on taxation of Indian seafarers.[149]

Along with seafarers, shipping companies require tax-related reforms to increase their global competitiveness. Indian shipping companies have to pay service tax on logistics services such as cargo handling, clearing and forwarding, general insurance, forwarding agent service, port services, repair and maintenance, and storage and warehousing. However, foreign shipping companies need not pay service tax on such services obtained from foreign service suppliers. Indian shipping companies should be exempt from service tax on all services provided from outside India and on all services in which they have the option to employ service suppliers from abroad. This will help resolve differences in service tax paid between Indian and foreign ships and also encourage shipping companies to obtain services from Indian suppliers. Other areas where tax reform is important in Indian shipping are inclusion of profit on sale of vessels and interest earned from special reserve under the tonnage tax regime and exemption from withholding tax on interest paid to foreign lenders and in-chartering of foreign ships.[150]

Reforms in Multi-modal operations: Governments worldwide now recognize the value of integrated logistics in improving the country's international competitiveness. The European Common Transport Policy has as one of its main objectives the development of "Intermodal Freight Transport", an integration of different transport modes which enables an efficient and cost-effective use of the transport system. However, the problems associated with promoting complementarity between transport modes within India are more complex. Multimodal services are still constrained by various factors such as lack of cargo information systems, lack of modern cargo handling methods, and poor access links of road and rail to ports. However, India needs to move towards multimodal transport to be competitive in line with global trends. First, a key issue for reform is simplified and streamlined documentation. Operators continue to issue mode-specific documents like the bill of lading for the sea leg and lorry or railway receipts for the land leg of transport. Although EDI has been implemented in India, considerable work remains to be done to computerize documents. EDI systems have to be fully implemented in all major entities involved in trade, such as shipping lines, ports, terminal operators, customs and other regulatory agencies. Second, the lack of suitable and affordable liability insurance cover for multimodal transport operators in the region has been a serious constraint on the growth of multimodal transport. India needs to develop an appropriate legal regime for multimodality which clearly defines the carrier's liability and the insurance coverage by which all the stakeholders are assured of their respective rights and obligations. India can refer to the ASEAN framework agreement on multimodal transport, which incorporates the basis of liability in the UNCTAD/ICC rules. Third, the full potential of multimodal transport cannot be realized without hinterland connectivity and development. As pointed out earlier, the linkages between roads, rail, and seaports need to be upgraded and complemented with the development of inland container depots (ICD). Unlike Europe, India does not have an efficient inland waterway system and large cargo vessels are unable to use inland waterways due to their insufficient draught. Furthermore, these rivers are used extensively for irrigation

[149] Report of the High-level group on Services Sector, Planning Commission, March 2008

[150] For further details on tax issues of the shipping industry, refer to Chapter 4, Report of the High-level group on Services Sector, Planning Commission.

and electricity generation, further restricting their capacity for cargo transportation. There is an urgent need to develop the inland transport chain so that ports are well connected to the hinterland. CONCOR has established several ICDs and container freight stations (CFS), but many ICDs reportedly lack adequate customs officials, export promotion and facilitation agencies and physio-sanitary certificate issuing authorities.[151] ICDs should be developed to provide a single point of contact for the coordination of the inland and ocean portions of cargo transportation.

Regulatory changes and amendments are required in the Multimodal Transport of Goods (MTG) Act of 1993. The Act suffers from several shortcomings such as exclusion of air freight operators, exclusion of imports, requirements of annual renewal of the MTO license and higher liabilities for the operator. The Directorate-General of Shipping (DGS) has proposed a series of amendments to the Act; however proposed amendments need to be implemented to make the MTG Act effective and streamline multimodal operations in India.

Overall, there is an urgent need to accelerate the pace of reforms in India in the transport and logistics sectors. The Indian government has amended its economic policies and invited greater private sector investment to help alleviate gaps in the transportation infrastructure. However, the transport and logistic infrastructure need to be properly priced and regulated to encourage private sector participation. Private sector development also needs to encourage a healthy competitive environment and revitalize the public sector. Liberalization in freight logistics alone would not result in trade growth without positive measures to eliminate bottlenecks in the supply chain. If the above reforms and measures are appropriately implemented, India's logistics sector can become a pivotal link in the global supply chain.

Conclusion

Logistics Services is a relatively new area for trade negotiations. However, the importance of logistics in a global economy cannot be doubted. Technological advances and economic liberalization have created global supply chains and developing countries like India need to develop an efficient logistics sector to harness global markets for economic growth. This paper has outlined current and future trade possibilities between India and the EU in logistics services. The study found that the logistics industry in the EU and India has many similarities as well as differences. Both India and the EU suffer from congestion in transport infrastructure such as road and ports. Maritime transport is very important to both India and the European community and both regions have implemented several unilateral liberalization initiatives in maritime. Differences exist between the India and EU with respect to the stage of multimodalism in the regions. While the EU has started development of an inter-modal freight transport system, multimodal transportation in India still has a long way to go. India needs to address procedural bottlenecks like customs clearance, octroi, and infrastructure issues to develop multimodality.

India’s negotiating strategy is outlined for each logistics sub-segment by taking into account the barriers revealed in the primary survey, India’s unilateral liberalization

[151] Gujar, G. (2005-06). Growth of Containerization and Multimodal transportation in India, *Maritime Economics and Logistics.*

and India's multilateral commitments so far. Areas of cooperation between India and the EU are proposed in sectors such as road and trucking operations, port management and warehousing management. Given the EU's global dominance in the logistics industry, collaboration in training and skill development would greatly benefit India. The study also reveals that there is varied potential in logistics sub-segments for India under the Indo-EU Trade and Investment Agreement. The greatest potential exists in road freight, services auxiliary to all modes of transport, and non-freight IT-enabled logistics. Potential for Mode 4 is highest in the maritime services segment for seafarers. Although India has not tabled any commitments in GATS for logistics services, such as road freight, cargo-holding, storage and warehousing, and transport agency services, it has autonomously opened up most sub-sectors and FDI up to 100 per cent is allowed through the automatic route. India can offer to bind these commitments with reciprocal commitments from the EU. India can also encourage exports through Mode 4 in the road freight and maritime sectors by asking for centralized and harmonized recognition procedures for Indian professionals in these sectors.

Due to the close relation between logistics and transport, provision of logistical solutions requires optimization of use of transport infrastructure. Sufficient and efficient infrastructure is of utmost importance in this sector. Reforms are suggested in road, rail, maritime and multimodal regulation to increase the productivity and competitiveness of this sector and enable the country to gain from the proposed TIA. Each mode of transport also has its own particular areas for urgent reform. Policies to improve roads must address barriers to inter-state movement of freight and the fragmented industry structure. Railways need to urgently develop dedicated freight corridors through efficient private sector participation. For ports, building connections between seaports and the inland transport network would be an important achievement. Reforms also overlap between modes of transport; all modes of transport are in need of capacity expansion and technical upgrading, as well as amendments to labor and manpower training policies. In the absence of reforms, bilateral liberalization would leave large domestic distortions and inefficiencies in the sector. Logistics cannot increase the efficiency of individual modes of transport and their combination. Since logistics depends on the efficiency of each transport mode, bilateral efforts would be better targeted at improving the latter, in particular through liberalization, harmonization and fair competition.

Appendix A: Classification of Logistics Services

Table A1: Scope of logistics services with CPC codes and W/120 classification

Group	**Industries**	**CPC Code**	**W/120 Classification**
Group I **Core freight logistic services**	Cargo handling services	CPC 7411 CPC 7419	11.H
	Storage and warehousing services	CPC 742	11.H
	Transport agency services	CPC 748	11.H
	Other auxiliary services, including customs brokerage services	CPC 749	11.H
Group II **Freight Transport Services**	Maritime transport services	*Services identified under maritime transport negotiations*	11.A
	Rail transport services - freight transport	CPC 7112	11.E
	Road transport services - freight transport	CPC 7123	11.F
Group III **Related logistics services**	Technical testing and analysis services	CPC 8676	1. F. e
	Management consulting and related services	CPC 865, 866	1.F.c, 1.F.d

Source: Compiled from Freight Logistics Checklist, WTO (June 25, 2004) TN/S/W/20 and WTO (July 10, 1991) MTN.GNS/W/120.

Appendix B: List of Important EU Directives and Regulations in Transport

Road Transport

- Council Regulation (EEC) No 3118/93 of 25 October 1993 laying down the conditions under which non-resident carriers may operate national road haulage services within a Member State.
- Council Directive 96/26/EC of 29 April 1996 lays down admission to the occupation of road haulage operator and road passenger transport operator and mutual recognition of diplomas, certificates and other evidence of formal qualifications intended to facilitate for these operators the right to freedom of establishment in national and international transport operations (OJ L 124, 23.5.1996, p. 1).
- Council Directive 96/53/EC of 25 July 1996 lays down for certain road vehicles circulating within the Community the maximum authorized dimensions in national and international traffic and the maximum authorized weights in international traffic (OJ L 235, 17.9.1996, p. 59), as amended by Directive 2002/7/EC (OJ L 67, 9.3.2002, p. 47).
- Council Directive 2002/15/EC lays down minimum requirements in relation to the organization of working time in order to improve the health and safety protection of persons performing mobile road transport activities and to improve road safety and align conditions of competition.
- Council Directive 93/89/EEC of 25 October 1993 on the application by Member States of taxes on certain vehicles used for the carriage of goods by road and tolls and charges for the use of certain infrastructures.
- Directive 1999/62/EC of the European Parliament and of the Council of 17 June 1999 on the charging of heavy goods vehicles for the use of certain infrastructures.
- Council Regulation (EC) No 1172/98 of 25 May 1998 on statistical returns in respect of the carriage of goods by road.
- Commission Regulation (EC) No 2691/1999 of 17 December 1999 on rules for implementing Council Regulation (EC) No 1172/98 on statistical returns in respect of the carriage of goods by road (Text with EEA relevance).

Railway Transport

- Council Directive 91/440/EEC on the development of the Community's railways amended by Directive 2001/12/EC of the European Parliament and of the Council of 26 February 2001.
- Council Regulation (EEC) No 1893/91 of 20 June 1991 amending Regulation (EEC) No 1191/69 on action by Member States concerning the obligations inherent in the concept of a public service in transport by rail, road and inland waterway.
- Council Directive 95/18/EEC on the development of the Community's railways amended by Directive 2001/13/EC of the European Parliament and of the Council of 26 February 2001.
- Council Directive 95/19/EC derogated by the Directive 2001/14/EC of the European Parliament and of the Council of 26 February 2001 on the allocation

of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and safety certification.

- Council Directive 96/18/EC concerns the criteria applicable to the issue, renewal or amendment of licenses by a Member State intended for railway undertakings which are or will be established in the Community when they provide the services referred to in Article 10 of Directive 91/440/EEC A license shall be valid throughout the territory of the Community.
- Directive 2001/12/EC of the European Parliament and of the Council of 26 February 2001 amending Council Directive 91/440/EEC on the development of the Community's railways. It includes: (a) separation of certain essential functions – granting licenses, decisions on charging for track access, capacity allocation, public service monitoring; (b) production of separate profit and loss accounts and balance sheets for freight, passenger transport services and infrastructure management; (c) full responsibility of the infrastructure manager for its own management; (d) open access for international freight services on the Trans-European Rail Freight Network (TERFN) plus feeder lines and access to track in ports and multi-user terminals; and by 2008 open access to the entire European rail network for all international freight.
- Directive 2001/13/EC of the European Parliament and of the Council of 26 February 2001 amending Council Directive 95/18/EC on the licensing of railway undertakings.
- Directive 2001/14/EC of the European Parliament and of the Council of 26 February 2001 on the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and safety certification.
- Council Directive 2004/49/EC has been laid down to ensure the development and improvement of safety on the Community's railways and improved access to the market for rail transport services.

Maritime Transport

- Council Regulation (EEC) No 4055/86 of 22 December 1986 applying the principle of freedom to provide services to maritime transport between Member States and between Member States and third countries.
- Council Regulation (EEC) No 4056/86 of 22 December 1986 laying down detailed rules for the application of Articles 85 and 86 of the Treaty to maritime transport.
- Council Regulation (EEC) No 4057/86 of 23 July 1992 relates to unfair pricing in maritime transport and enables the EC to apply compensatory duties to be imposed on foreign ship-owners in order to protect ship-owners in Member States.
- Council Regulation (EEC) No 4058/86 of 22 December 1986 concerning coordinated action to safeguard free access to cargoes in ocean trades.
- Council Regulation (EEC) No 3577/92 of 7 December 1992 applying the principle of freedom to provide services to maritime transport within Member States (maritime cabotage).
- Directive 2002/6/EC of the European Parliament and of the Council of 18 February 2002 on reporting formalities for ships arriving in and/or departing from ports of the Member States of the Community (Text with EEA relevance).

- Green paper oF 10 December 1997 on Sea Ports and Maritime Infrastructure.
- Communication from the Commission to the European Parliament and the Council of 13 February 2001: *Reinforcing Quality Services in Sea Ports: A Key for European Transport* (COM (2001)35.
- Proposal for a Directive of the European Parliament and of the Council of 13 February 2001 on Market Access to Port Services, COM (2001)35.
- Directive 2000/59/EC of the European Parliament and of the Council of 27 November 2000 on port reception facilities for ship-generated waste and cargo residues - Commission declaration.
- Directive 2003/103/EC of the European Parliament and of the Council of 17 November 2003 amending Directive 2001/25/EC on the minimum level of training of seafarers. The Directive lays down procedures and common criteria for the recognition by the Member States of certificates issued by third countries and the approval of maritime training institutes and maritime education and training programs.
- Council Directive 2005/65/EC aims to introduce Community measures to enhance port security in the face of threats of security incidents. This Directive shall also ensure that security measures taken pursuant to Regulation (EC) No 725/2004 benefit from enhanced port security. The measures referred to in Paragraph 1 shall consist of: (a) common basic rules on port security measures; (b) an implementation mechanism for these rules; and (c) appropriate compliance monitoring mechanisms.

Trans-European Transport Networks (TEN-T)

- Directive 2001/16/EC of the European Parliament and of the Council of 19 March 2001 on the interoperability of the trans-European conventional rail system.
- Council Directive 2004/50/EC amends Directive 96/48/EC and the aim of this Directive is to establish the conditions to be met to achieve interoperability within Community territory of the trans-European high-speed rail system. These conditions concern the design, construction, placing in service, upgrading, renewal, operation and maintenance of the parts of this system placed in service after 30 April 2004, as well as the qualifications and health and safety conditions of the staff who contribute to its operation.

Environmental Impact

- Council Directive 85/337/EEC of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment.
- Council Directive 97/11/EC of 3 March 1997 amending Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment.
- Directive 2001/42/EC of the European Parliament and the Council on the assessment of the effects of certain plans and programs on the environment.

Labor Issues

- Council Directive 93/104/EC lays down minimum safety and health requirements for the organization of working time. This Directive applies to: (a) minimum periods of daily rest, weekly rest and annual leave, to breaks and maximum weekly working time; and (b) certain aspects of night work, shift work and patterns of work.
- Council Directive 96/71/EC concerns the posting of workers in the framework of the provision of services and applies to undertakings established in a Member State which, in the framework of the transnational provision of services, post workers to the territory of a Member State. Undertakings established in a non-Member State must not be given more favorable treatment than undertakings established in a Member State.

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