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**Dr. Dennis A. De**  
ESB Business School, Reutlingen University  
Alteburgstraße 150  
72762 Reutlingen  
Germany

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INDEX

Foreword 01

India-EU BTIA: Implications for Services Sector, by Arpita Mukherjee 02

Impact of Special Economic Zones to FDI in India, by Bodo Herzog 23

India’s Skilled Manpower – a Road Map to Indo-EU Sustainable Growth, by Vipin Agrawal 30

Skilled Labor in India: Bridging the gap, by Heike Trost 60

Logistics Sector in India: Opportunities and Constraints for EU Business, by Smita Miglani 87
Dear Reader,

The idea for this journal results from countless discussions about India and Europe, their differences, economic development and interdependencies we had during the past two years. This owes a lot to the India-EU Study Centres Programme that is part of the India-EU Joint Action Plan. Much of this wouldn’t have happened without the EU funded study centres this led to, and one of them being the Centre for European Business Studies (CEBS).

Many of the more business related issues and questions were raised before and after the annual CEBS conference in Mumbai. These spans from general aspects of economic structure, markets and policy issues to very business related matters of planning, finance, delivery or management. The attempt to include this in courses and classes at the CEBS parent institutions, namely the ESB Business School at Reutlingen University in Germany and the S.P. Jain Institute of Management in Mumbai, India, led us to seek for ways to formalise this discussion at first.

However, the apparent lack of research on Indo-European business as well as the response and interest we received from other institutions soon proved this to be an area of growing interest and so triggered the decision to create an institutionalised platform for scientific research and discussion: the Journal of Indo-European Business Studies (JIEBS).

This is the first copy of JIEBS. The papers it presents are the result of a call for papers CEBS made in 2011. We actually received far more interesting papers and research reports than expected. They all passed a double blind review and the papers naturally are the original work of the named authors. The choice we finally made was also influenced by the topic of the CEBS annual conference 2011, namely the influence of infrastructure and skilled labour on Indo-European Business. The papers analyse structure and explain many issues related to this, they raise questions and point towards areas for further research and they form the nucleus of this new and currently only scientific platform for Indo-European business studies.

Dennis A. De

November 2011
India-EU BTIA: Implications for Services Sector

Arpita Mukherjee,
Professor, ICRIER, New Delhi

Ramneet Goswami,
Research Associate, ICRIER, New Delhi

Abstract

This paper examines the possibilities for liberalizing trade in services under the India-EU Broadbased Trade and Investment Agreement (BTIA). India and the EU are major exporters of services and have trade complementarities. The two economies have autonomously liberalized a wide range of services sectors and their WTO commitments are lower than the autonomous liberalization. Hence, there is scope for securing greater liberalization under the BTIA. Based on a primary survey of eight services sectors, the study found that in each sector, India and the EU have a specific interest in each other’s markets. There is scope to further enhance trade and collaboration. However, a number of barriers affect bilateral services trade including coverage of the sector, scheduling approach and regulatory issues. While some of these can be addressed through the BTIA, in others it may be difficult to meet the demand of the trading partner. The paper concludes that it is unlikely that the BTIA will go beyond the level of autonomous liberalization. Nevertheless, it will provide security to service providers in each other’s market given that the WTO negotiations have not progressed much.

JEL Classification: F13, F51, F53, L80, L84, L88

Key words: Services, BTIA, Free Trade Agreement, Liberalization, World Trade Organization, India, European Union
Introduction

India and the European Union (EU) are negotiating a Broadbased Trade and Investment Agreement (BTIA) which is likely to be signed soon. The negotiations began in June 2007 after the High Level Trade Group set up by both economies recommended that a comprehensive agreement will be beneficial for India and the EU. The BTIA will cover goods, services, investment, government procurement, sustainable development and labor standards, among others. This will be India’s first bilateral agreement in services with a large trading partner and EU’s first agreement with a large emerging market. Since both India and EU are members of the World Trade Organization (WTO), it is expected that the BTIA will be WTO plus. This will be India’s first agreement which will cover issues like government procurement in goods and services and labor standards.

There is a strong economic reason for India and the EU to enter into a BTIA. The EU is a major trading partner of India in goods and second largest trading partner in services (after the United States). Services contribute substantially to the gross domestic product (GDP) of India and the EU. The two economies have autonomously liberalized the services sector, are large exporters of services and are major proponents of services liberalization in the WTO. In the past few years, the share of the services in total trade has increased - in 2009, services accounted for around 30% and 28%, respectively, of the total trade of India and the EU. They have bilateral trade complementarities in services. Many of the recent Free Trade Agreements (FTAs) of India and the EU include services. Indian policymakers have pointed out that in goods India’s average tariffs (14.5%) are higher than that of the EU (4.1%), India may have to lower its tariffs more than the EU and hence gains will be in EU’s favor. On the other hand, in services, India can aggressively negotiate for greater market access in 27 EU member states in areas such as temporary movement of people and outsourcing. Moreover, EU’s bilateral agreements such as EU’s Economic Partnership Agreement (EPA) with the Caribbean Forum of African, Caribbean and Pacific States

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1 An earlier version of this paper was presented at the conference on Implications of the Indo-European Free Trade Agreement (FTA), organized by the Centre for European Business Studies, ESB Business School (Germany) and S.P. Jain Institute of Management and Research (Mumbai) on November 26-27, 2010 at Mumbai. It was also presented at the conference on India and the European Union: Economic Relations organized by the Centre for Contemporary India Research and Studies, Institute of International Relations, University of Warsaw on January 14, 2011 at Delhi. The authors are grateful to conference participants for their valuable inputs.

2 So far, India has signed comprehensive agreements including services with countries like Singapore, Korea, Malaysia and Japan.

3 In 2009, services contributed about 72.8% in EU’s GDP and 54.9% in India’s GDP (IMF, 2010).

4 The figures were calculated by the authors by using IMF Database and Eurostat.

5 Official Journal of the EU (2010).
(CARIFORUM) include liberalization of movement of skilled and semi-skilled workers which is not covered in the WTO. India has abundant supply of young, educated and English speaking manpower at low costs, while the population in many EU member states is ageing. The EU companies are facing a saturated market at home in sectors like energy, telecommunications and transport and are exploring investment opportunities in India.

Existing studies shed light on EU and India’s FTAs and some of them specifically focus on the BTIA. For instance, Horn et al. (2010) and Marchetti and Roy (2008) pointed out that the EU’s FTAs generally go beyond the scope of the GATS market access negotiations, because the EU wants to ensure regulatory certainty through its FTAs. India’s existing comprehensive agreements have not gone much beyond the market access commitments in its Revised Offer submitted to the WTO in August 2005 (see Mukherjee, 2008). Ecorys (Netherlands), Consumer Unity and Trust Society (CUTS) and the Centre for Trade and Development (Cen tad) in 2009 pointed out that the India-EU FTA is likely to open up India’s financial sector and increase exports of other business services. At present, the UK is India’s major export destination, but after the FTA India could gain market access to other EU member countries. A study by the Centre for the Analysis of Regional Integration (CARIS) and CUTS in 2007 found that service providers from India and the EU face several barriers in each other’s market. EU companies in India have to deal with multiple rules and regulations, inconsistence practices across states, multiple contact points at different levels of bureaucracy, regulatory gaps and limits on foreign investment and ownership. Indian service providers face quotas, non-recognition of professional qualifications and limited market access in sectors such as software services in EU member states. These can be addressed under the proposed FTA.

While these studies raise some important issues, they mostly cover a few services such as banking. They do not analyze what are the likely demands of India and EU within each services sector. This paper attempts to fill this lacuna. It examines (a) the possibilities of liberalizing trade in services under India-EU BTIA (b) the likely negotiating positions of the two economies in different services sectors, and (c) the likely outcomes of the BTIA.

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WTO (2005a).
The paper is based on secondary data analysis and a primary survey. The secondary data is collected from International Monetary Fund (IMF) Balance of Payments (BoP) Database, and Eurostat. To calculate the comparative advantage of India and the EU vis-à-vis the rest of the world in exports of different services, we have used Balassa index of Revealed Comparative Advantages. Due to the paucity of disaggregate data on bilateral trade, investment and collaborations in different services sectors between India and EU a primary survey was conducted which covered 100 respondents across eight services sectors - information technology (IT) and IT enabled services, telecommunications, energy, engineering and architectural services, logistics, health, retail and audio-visual services. The survey covered eight cities. The sample included the EU companies in India in each sector, Indian companies in the EU, policymakers and industry associations. The sample was selected through web search and discussions with Indian and EU Embassies and industry associations. The survey was based on semi-structured questionnaires. For companies the interviews were conducted with senior executives and each interview lasted for around an hour. The details of survey are given in Section 3.

The layout of the paper is as follows. The first section provides an overview of India and the EU’s global and bilateral trade in services, focusing on areas of trade complementarities. Section 2 gives a snapshot of their negotiating positions in the WTO and FTAs. The survey results are presented in Section 3, along with the likely negotiating positions of India and the EU in these sectors. Section 4 discusses key issues in the BTIA and the negotiating strategies and options. The last section draws the main conclusions.

1. India-EU Trade in Services

Globally, both India and the EU are large exporters of services. In 2009, with total exports of $1.5 trillion, the EU was the leading exporter of commercial services among WTO member countries, accounting for around 46% of the world’s total exports of services. Comparatively, India held the 12th position with exports worth $87 billion. In the same year the EU imported commercial services worth $1,329 billion, while India’s imports were valued at $80 billion. Thus, in terms of volume, the EU is a much larger player than India. Within commercial services, the EU is the global leader in both exports and imports of services such as transportation, communications and computer and information services (Table 1). Bulk of the EU trade in services is within its member states. The US has the highest share among the external trading partners.
Table 1: Ranking of India and the EU in Global Trade in Services

<table>
<thead>
<tr>
<th>Services</th>
<th>Exports</th>
<th></th>
<th></th>
<th>Imports</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>India</td>
<td>EU</td>
<td>Extra-EU</td>
<td>India</td>
<td>EU</td>
<td>Extra-EU</td>
</tr>
<tr>
<td>Commercial Services (2009)</td>
<td>12</td>
<td>1 (45.6)</td>
<td>1 (19.5)</td>
<td>12</td>
<td>1 (42.3)</td>
<td>1 (17.3)</td>
</tr>
<tr>
<td>Transportation (2009)</td>
<td>9 (1.5)</td>
<td>1 (45.4)</td>
<td>1 (21.9)</td>
<td>4 (4.2)</td>
<td>1 (33.5)</td>
<td>1 (14.8)</td>
</tr>
<tr>
<td>Construction (2008)</td>
<td>12</td>
<td>1 (54.0)</td>
<td>1 (30.0)</td>
<td>13 (1.0)</td>
<td>1 (42.0)</td>
<td>1 (17.7)</td>
</tr>
<tr>
<td>Financial Services (2008)</td>
<td>7 (1.4)</td>
<td>1 (57.5)</td>
<td>1 (25.6)</td>
<td>5 (3.1)</td>
<td>1 (60.0)</td>
<td>1 (23.6)</td>
</tr>
<tr>
<td>Communications (2008)</td>
<td>4 (3.1)</td>
<td>1 (59.2)</td>
<td>1 (20.4)</td>
<td>11 (1.5)</td>
<td>1 (64.3)</td>
<td>1 (23.6)</td>
</tr>
<tr>
<td>Telecommunications (2008)</td>
<td>6 (1.9)</td>
<td>1 (61.1)</td>
<td>1 (20.3)</td>
<td>8 (1.0)</td>
<td>1 (69.8)</td>
<td>1 (24.8)</td>
</tr>
<tr>
<td>Computer and Information (2008)</td>
<td>2 (19.4)</td>
<td>1 (58.3)</td>
<td>1 (22.8)</td>
<td>4 (3.8)</td>
<td>1 (55.5)</td>
<td>1 (18.7)</td>
</tr>
<tr>
<td>Audiovisual (2008)</td>
<td>-</td>
<td>2 (35.5)</td>
<td>2 (14.0)</td>
<td>-</td>
<td>1 (62.6)</td>
<td>1 (27.8)</td>
</tr>
<tr>
<td>World Total (Value in $ billion)</td>
<td>3350</td>
<td>3143</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Compiled by authors from WTO (2010).

Note: % share is given in parentheses.

Although the trade volumes are lower for India, the country has comparative advantages in specific services exports. To analyze the comparative advantage of India and the EU vis-à-vis the rest of the world in exports of different services, their Revealed Comparative Advantage (RCA) was calculated using the Balassa index:
\[ RCA_{ij} = \frac{x_{ij}}{X_{it}} / \frac{x_{wj}}{X_{wt}} \]

where \( x_{ij} \) and \( x_{wj} \) are the values of a country’s exports of services sector \( j \) and world’s exports of services sector \( j \), and, \( X_{it} \) and \( X_{wt} \) refer to the country’s total exports and world total exports. If the RCA is greater than one for any sector, the country is said to have a comparative advantage \( \textit{vis-à-vis} \) the rest of the world.

The RCAs in Table 2 show that India has a strong comparative advantage in the computer and information sector \( \textit{vis-à-vis} \) the rest of the world. The EU has a comparative advantage in services such as construction, communications, insurance and financial services. The RCAs also show that India and the EU have trade complementarities. For instance, the EU can export services like financial services, insurance and transport services to India.

**Table 2: RCAs for India and the EU**

<table>
<thead>
<tr>
<th>Service Sectors</th>
<th>India</th>
<th>EU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation</td>
<td>0.54</td>
<td>0.49</td>
</tr>
<tr>
<td>Travel</td>
<td>0.62</td>
<td>0.53</td>
</tr>
<tr>
<td>Communications</td>
<td>2.82</td>
<td>1.31</td>
</tr>
<tr>
<td>Construction</td>
<td>0.19</td>
<td>0.33</td>
</tr>
<tr>
<td>Insurance</td>
<td>0.89</td>
<td>0.95</td>
</tr>
<tr>
<td>Financial Services</td>
<td>0.28</td>
<td>0.34</td>
</tr>
<tr>
<td>Computer and Information</td>
<td>12.65</td>
<td>9.84</td>
</tr>
<tr>
<td>Other Business Services</td>
<td>0.59</td>
<td>1.02</td>
</tr>
<tr>
<td>Personal, Cultural and Recreational</td>
<td>0.00</td>
<td>0.18</td>
</tr>
</tbody>
</table>
Source: Calculated by the authors using UNCTAD Database on International Trade in Services.

The bilateral trade in services between India and the EU has grown substantially in the past few years. In 2003, the bilateral services trade was only $6.7 billion but it increased to $22.7 billion in 2009. During the same period, exports and imports increased from $3.4 billion and $3.3 billion to $10.5 billion and $12.3 billion, respectively. The EU is India’s largest trading partner in services and accounted for around 13% of India’s services trade in 2008. Although India is among the top 15 trading partners of the EU, its share among EU’s trading partners in services is less than 2%. Globally, India has a positive trade balance in services, but with the EU, it has a negative trade balance. Among the EU member countries, the United Kingdom (UK) is a major trading partner of India, followed by France, Germany and Netherlands. India’s services trade with eastern European countries is less but it is growing at a fast pace. By sector, transportation, computer and information services, travel and other business services accounted for 25%, 18%, 14% and 29%, respectively of the total bilateral trade in services in 2009.

The EU is the second-largest foreign investor in Indian services sector. Between April 2000 and June 2010, cumulative FDI inflows from the EU were $23 billion, with services accounting for the largest share (23%). Outward investment from India to the EU increased from $0.14 billion in 2000 to $1.21 billion in 2009. The UK, Belgium and Germany are some of the preferred investment destinations for Indian companies and IT and renewable energy are some of the key sectors of India’s investment in the EU. Several Indian companies are collaborating with EU companies not only to establish a presence in each other’s markets but also in third country markets. The EU is an important supplier of technical know-how to India. Between August 1991 and October 2009, Germany was the second largest country for technology transfer, followed by the UK (4th) and Italy (5th).

The next section provides a broad overview of the negotiating positions of India and the EU in services in the WTO and FTAs.

2. Services in the WTO and FTAs

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8 WTO (2011).
9 European Commission (2010).
10 Supra note 7. Exchange rate for 2000: €1= $0.9002 (average) and for 2009, €1= $1.39463 (average), available at http://www.oanda.com (last accessed on April 28, 2011).
11 See DIPP (2010).
India and the EU are both proponents of liberalizing trade in services in the WTO and FTAs. However, their interest varies across different types of services and modes of services delivery.\textsuperscript{12} For instance, the EU is a major proponent of liberalizing Mode 3 and services sectors like telecommunications and logistics while India is pushing for liberalizing knowledge-based services such as computer-related services and Modes 4 and 1. In Mode 4, India wants commitments from its trading partners for high skilled professionals in four categories namely business visitors (BV)\textsuperscript{13}, intra-corporate transferees (ICT)\textsuperscript{14}, independent professionals (IP)\textsuperscript{15} and contractual service suppliers (CSS)\textsuperscript{16}. India also wants full liberalization of Mode 1 in a broad range of sectors which will enable Indian IT and business process sourcing (BPO) companies to provide services to their clients. India is also pushing for commitments in Modes 1 and 4 delinked from the requirement to establish a commercial presence or an office in a foreign country. The EU, on the other hand, wants liberalization of the FDI regime in major markets such as India in key sectors such as telecommunications, financial services, transport and energy services. Its interest lies not only in securing the autonomously liberalized regime but also regulatory certainties. The EU has a holistic approach to securing commitments. For instance, instead of negotiating transport services, the EU prefers to negotiate logistics services which along with transport include other services such as warehousing, transport-related consultancies and postal and courier services. Both India and the EU have certain trade sensitivities. For instance, India has so far expressed its unwillingness to undertake liberalization commitments in sectors like retail, insurance and legal services while the EU has not taken commitments in sectors like audio-visual. There are various reasons for such sensitivities including evolving regulatory regime (courier in the case of India) and political and cultural sensitivities (audio-visual for the EU and retail for India).

The interest of the two economies across different services sector is also reflected in their bilateral and plurilateral requests and offers\textsuperscript{17} in the Doha Round of the WTO. Table 3 shows where India

\textsuperscript{12} Under GATS services are traded through four different modes. \textit{Mode 1: “Cross-border supply of services”} refers to the delivery of services across countries such as the cross-country movement of passengers, electronic delivery of information. \textit{Mode 2: “Consumption abroad”} refers to the physical movement of the consumer of the service to the location where the service is provided and consumed. \textit{Mode 3: “Commercial presence”} refers to the establishment of foreign affiliates and subsidiaries of foreign service companies, joint ventures, partnerships, representative offices and branches. It is analogous to FDI in services. \textit{Mode 4: “Presence of natural persons”} refers to natural persons who are themselves service suppliers, as well as natural persons who are employees of service suppliers, temporarily present in the other member’s market to provide services.

\textsuperscript{13} A person who visits another country specifically for business negotiations and/or for preparatory work for establishing presence for short duration.

\textsuperscript{14} Employee of a company who is transferred from an office in the country of origin to an office of the same company in another country.

\textsuperscript{15} Employee of a foreign company who enters another country temporarily in order to perform a service pursuant to a contract.

\textsuperscript{16} A self-employed person who entered another country to perform a service on contract basis.

\textsuperscript{17} GATS negotiations are based on request-offer process where a country makes a bilateral request to its trading partners, who after taking into account the requests from all countries, make an offer. The offers are multilateral, that
and the EU have been demanders and recipients of plurilateral requests. In areas where they have strong trade interest, they have been the coordinator of the demanding group.

**Table 3: Plurilateral Requests on Different Services Sector**

<table>
<thead>
<tr>
<th>Sector</th>
<th>India</th>
<th>EU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer-Related Services</td>
<td>Demander</td>
<td>N.A.</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>Recipient</td>
<td>Demander</td>
</tr>
<tr>
<td>Energy</td>
<td>Recipient</td>
<td>Coordinator</td>
</tr>
<tr>
<td>Architectural and Engineering</td>
<td>Recipient</td>
<td>Demander</td>
</tr>
<tr>
<td>Logistics</td>
<td>Recipient</td>
<td>Recipient</td>
</tr>
<tr>
<td>Distribution Services(^{18})</td>
<td>Recipient</td>
<td>Demander</td>
</tr>
<tr>
<td>Audio-visual</td>
<td>Recipient</td>
<td>Recipient</td>
</tr>
<tr>
<td>Model 1 (Cross-Border Supply)</td>
<td>Coordinator</td>
<td>Recipient</td>
</tr>
<tr>
<td>Model 3 (Commercial Presence)</td>
<td>Recipient</td>
<td>Coordinator</td>
</tr>
<tr>
<td>Model 4 (Movement of Natural Persons)</td>
<td>Coordinator</td>
<td>Recipient</td>
</tr>
</tbody>
</table>

Source: Compiled by the authors from the plurilateral requests. Available at http://www.commerce.nic.in/trade/international_trade_tis_gaitis_requests_pr.asp (last accessed on April 28, 2011)

Note: (a) The health services sector is not covered in plurilateral negotiations

(b) N.A: Neither recipient nor demander

\(^{18}\) Includes commission agents’ services, wholesale trade services, retail services and franchising.
The negotiating position of India and EU in services in their FTAs is similar to that in the WTO in terms of sectors covered and modes of delivery. However, as mentioned before, EU FTAs are more comprehensive than India’s FTAs – the former cover regulatory issues and seeks WTO plus commitments in areas such as government procurement in services and subsidies in services. In its recent FTAs, the EU did not follow GATS type scheduling approach. Both EU and India’s FTAs have provisions for enhancing cooperation and collaboration. The next section examines the interest of India and EU in specific services sectors and their likely negotiating positions in the BTIA.

3. Sector-wise Bilateral Trade and Likely Negotiating Position in the BTIA

To understand the trade interest of India and the EU a primary survey was conducted across eight services sectors. These include IT and ITeS, telecommunications, energy, engineering and architectural services, logistics, health, retail and audio-visual services. These sectors have been selected because either both or one of the two trading partners have export interest in the particular sector. It also includes sectors which the two economies do not want to liberalize bilaterally or multilaterally. The survey tried to identify (a) pattern of trade (b) areas of collaboration (c) demands of India and EU (d) areas of concerns and sensitivities. Some of the findings are given below:

**IT-ITeS:** Both India and the EU are major exporters of computer and information services. While India’s competence lies in the availability of low-cost skilled manpower, the EU has comparative advantage in advanced technology and research and development (R&D). India is one of the largest off-shoring hubs in the world and many EU companies have established captive units, R&D and BPO centres in India primarily to benefit from the low-cost manpower. The EU is second largest market (after the US) for Indian companies, accounting for almost 30% of India’s exports.\(^{19}\) Many Indian IT-ITeS companies have set up operations in the EU, especially in countries such as the UK and Germany. Of late, outward investment from India has increased significantly with companies such as Tata Consultancy Services and Infosys acquiring major stakes in European companies.

Although both India and the EU have an interest in liberalizing this sector, the survey found that India is likely to have more demands than the EU in the BTIA. India would like to secure commitments in computer-related services at the two-digit level. Since this sector is evolving with technological advances, commitments at two-digit level will help India secure liberalization for

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\(^{19}\) NASSCOM (2010).
services that may evolve in the future. India would also ask for liberalization commitments in CSS and IP and in Mode 1 (delinked from commercial presence). In its Revised Offer to the WTO submitted on June 29, 2005, the EU offered liberalization commitments in Modes 1, 2 and 3 but there are hardly any commitments in CSS and IP.\textsuperscript{20} India would like commitments in this sector to go beyond the EU’s Revised Offer. Government procurement in IT services in some EU member states has been a concern for Indian companies, while EU companies have raised concerns about intellectual property rights, especially copyright and confidentiality issues. These are likely to be discussed in the BTIA.

**Telecommunications services:** Since the 1990s, the telecommunications sector in India and the EU witnessed significant liberalization. The EU market has reached near saturation in terms of access while the Indian market is unsaturated and is growing at a fast pace. In 2009, the average penetration for mobile and internet was 127% and 67% respectively in the EU, compared to 43% and 5%, respectively, in India.\textsuperscript{21} EU companies such as Vodafone are present in India.

Survey participants pointed out that the EU telecommunication market is nearly saturated, whereas the Indian market remains unsaturated. EU companies have an investment interest in India and are pushing for the removal of investment and operational barriers. India is gradually liberalizing this sector and barriers are being phased out. In fact, India’s autonomous regime is fairly liberal and globally comparable. However, this is not reflected in India’s Uruguay Round commitments or the Doha Round offers. Through the BTIA, the EU would like to secure autonomous liberalization. EU companies have raised issues relating to regulatory transparency that are likely to be discussed in the BTIA. The roaming charges in EU member states are much higher than in India. To enhance people-to-people contact and facilitate the operation of Indian businesses in the EU, India is likely to push for a reduction in call charges, especially roaming charges, in the EU.

**Energy:** India and the EU are major energy consumers\textsuperscript{22} and they both have a shortage of fossil fuels. The two economies are abundantly endowed with renewable resources like solar, wind, hydro and bio-energy and are focusing on renewable energy. The EU is the largest investor in the Indian energy sector in exploration and production, energy-related consultancy, R&D and renewables. Indian and EU companies are jointly operating in third country markets. Indian companies are providing consultancy services and are investing in renewable segment in the EU. There are several government to government collaborations in clean energy technology.

\textsuperscript{20} WTO (2005b).
\textsuperscript{21} Retrieved by authors from “ICT Statistics Database”, http://www.itu.int/ITU-D/icteye/Indicators/Indicators.aspx# (last accessed on April 28, 2011).
\textsuperscript{22} In 2009, India was the fourth and the EU third largest primary energy consuming country in the world (BP, 2010).
The EU wants liberalization commitments in energy services in the WTO and in its FTAs. India seems to have a defensive position in this sector in its WTO Revised Offer in energy in the Doha Round. The liberalization offer in this sector is much lower than the level of autonomous liberalization. This gives opportunity to the EU to secure liberalization commitments through the BTIA. In India, the regulatory regime is evolving and the market is not fully competitive in segments like energy retail. This may make it difficult for India to meet some of the EU demands. It is likely that the BTIA may have a separate chapter on collaboration in energy services. The EU FTAs usually have a chapter on sustainable development and clean energy. India will be negotiating such issues for the first time. Survey participants pointed out that this is a complex negotiation for a developing country like India since renewable technologies are still expensive in the country, the ability to pay for clean technology is low and a large portion of the population does not have access to basic energy. The EU is very keen to discuss public procurement in energy under the BTIA. This is difficult for India since the country has quasi-federal governance and some segments of energy such as electricity come under the joint jurisdiction of the central and state governments.

**Engineering and Architectural Services:** India has around 50,000 registered architects and has second-highest number of engineers in the world (after China). The engineering and architectural sector in the EU is well-developed and EU companies are among the global leaders in engineering and architectural services. The survey found that while India’s main strengths lies in strong managerial skills, professional and systematic project execution, and presentation skills, the EU specializes in high-end technology and turnkey construction. Many EU companies have established their presence in India and some companies operate through joint ventures. Few Indian companies are present in the EU. Most of them offer services through Mode 1. Some Indian companies have technical collaborations with EU companies in countries like Denmark, Germany, France, Netherlands and the UK in fields like infrastructure engineering.

In the BTIA, both India and the EU would like to have liberalization commitments in this sector. While the FDI regime is open, there are barriers to the movement of people in both markets. These barriers include cumbersome process for work permits and visas and non-recognition of qualifications. Liberalization of Modes 1 and 4 under the BTIA would benefit both economies. The survey found that trade could be enhanced through measures such as mutual recognition agreements (MRAs) between professional bodies of EU countries, like Italy, Germany, France and the UK and India for architects and engineers.

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23 NASSCOM (2010).
Logistics: The EU is one of the leading logistics services providers in the world. Indian logistics market is small but is growing at the rate of 30-40% per annum. Several EU companies have invested in logistics in India and few Indian companies are also establishing presence in the EU markets. The India-EU Horizontal Civil Aviation Agreement was signed at the 9th EU-India Summit in Marseille on September 29, 2008. The two economies are also negotiating a bilateral Maritime Agreement which will lead to legal consolidation and increased market access for the EU shipping companies. There are future opportunities for investment by the EU companies in areas such as integrated logistics services, cold chains, fuel-efficient transport technologies, traffic management and parking system, apart from infrastructure construction.

In logistics, India’s commitments in Revised Offer in Doha Round is much lower than the autonomous regime. Hence, the EU can secure more commitments in sectors like road transport, auxiliary services and courier services. However, certain services like postal and railways are public monopoly and India may not liberalize them. Both India and the EU are likely to maintain certain restrictions such as cabotage restrictions for shipping services. During the survey, Indian and EU companies pointed out that increase in trade due to the BTIA will enhance opportunities for the logistics sectors of both economies and this sector would benefit from the agreement.

Health: The EU companies are interested in investing in the healthcare sector of India which has registered a growth of 9.3% between 2000 and 2009.24 India, on the other hand, has a large pool of doctors and nurses which are in short supply in many EU member states. Some Indian companies are setting up a commercial presence in telemedicine and clinical research in the EU. Mode 1 is an important mode of trade for Indian companies and service providers in this sector.

Although trade in health services is growing, government has a major share in this sector in the EU and India. Health services is a sensitive sector for India and the EU, and their Revised Offers to the WTO shows substantial limitations. For instance, the EU has hardly taken any commitment in medical, dental and midwives services. In recent years, Indian healthcare professionals are facing work permit and visa related barriers in important markets, such as the UK, and India is likely to raise this during the negotiations. There is scope for entering into MRAs for doctors, paramedics and nurses, among others which will facilitate Mode 1 and Mode 4 trade. However, this sector may not witness much liberalisation in the BTIA since it is considered a social sector in India and the EU and both economies in the past have not shown an interest in liberalising this sector.

24 http://www.ibef.org/industry/healthcare.aspx
**Retail:** The Indian retail market is valued at $410 billion in 2010 and the country is ranked as the third most attractive retail destination for global retailers after China and Kuwait.\(^{25}\) Since 1995 the sector has witnessed a double-digit growth rate. The EU market is getting saturated and the growing Indian market, rising per capita income and large consumer base has attracted many EU retailers to India. However, FDI is not allowed in multi-brand retail. It is partially allowed in single-brand retail subject to certain conditions.

India has not taken any commitments in the retail sector in the WTO. In the BTIA, the EU would like to secure liberalization commitments in the retail sector, especially in multi-brand retail. India may not be in a position to offer commitments until the sector is autonomously liberalized. It is also unlikely that India will give forward-looking commitments\(^{26}\) in this sector. However, in the BTIA, the EU can secure the existing autonomous liberalization, especially partial FDI liberalization in single-brand retail and 100% FDI in wholesale cash-and-carry. The survey participants pointed out that the EU should also push for 100% FDI in single-brand retail since it will benefit a number of European brands, some of whom are already in India through the single-brand joint ventures and other routes like franchising. It may also be easier for India to adhere to this demand since within India there is less political opposition to allowing FDI in single brand retail than in multi-brand retail.

**Audio-visual Services:** India is the largest film producing country and the third largest cable and satellite market in the world\(^{27}\). It is also an important destination for animation, graphic designing and multimedia. In 2009, the Indian audio-visual industry was $7 billion which is projected to double by 2013.\(^{28}\) The EU’s audio-visual market is the second largest in the world (after the US). Many Indian companies have technical collaboration or have acquired stakes in the EU companies and many EU companies are operating in India. With a large pool of qualified manpower at competitive prices, Indian companies and individuals are offering post-production services to the EU companies. India has signed audio-visual co-production agreements with 22 EU countries.

The survey participants pointed out that audio-visual is a sensitive sector for the EU. The EU has neither taken any commitment nor has offered to take any commitments in audio-visual services in the WTO and in its FTAs. However, there is a chapter on cooperation in audio-visual services in some of the EU’s FTAs. The survey found that since Indian companies have a strong export interest in the EU market, India should push for liberalization commitments in this sector,

\(^{26}\) Forward-looking commitments refers to undertaking a commitment in the WTO to liberalize a sector within a specific timeframe and then initiating domestic reforms to meet that commitment.
\(^{27}\) After China and the US.
\(^{28}\) FICCI-KPMG (2010).
especially in Mode 1 and 4. The EU’s audio-visual industry is highly subsidized and this makes it uncompetitive for foreign service providers to enter and operate in the EU. India is likely to raise these issues during the negotiations. India may also request for special visas, such as group visas for film shooting for audio-visual service providers. Indian companies pointed out that a cooperation agreement at the EU level rather than with individual member states will be more beneficial for India.

4. Some Key Issues in the BTIA

The discussions in the previous sections show that India and the EU have strong interest in services liberalization, they have autonomously liberalized their services sector and their WTO commitments are lower than the level of autonomous liberalization. The gap between WTO commitments and autonomous regime implies that there is a scope for securing commitments through the BTIA. The two economies have trade complementarities in a number of services sectors. However, there are some areas of concerns. Some of the key issues and how these are likely to be addressed in the BTIA are discussed below:

(a) Classification of Services: The services sector is evolving and new form of services and modes of services delivery have come up. During the Uruguay Round of the WTO negotiations, member countries drew up a list of service sectors known as W/120 (MTN.GNS/W/12029) based on the United Nations Central Product Classification (UNCPC) for the purpose of negotiations. Certain services such as energy and logistics services are not well-defined in the W/120. Moreover, with developments in services, the UNCPC itself became outdated and different versions of the UNCPC30 have come up, the latest version, UNCPC version 231, has a more detailed classification of different services sectors. India, so far, has largely followed the W/120 classification and has undertaken commitments by clearly mentioning the services and corresponding CPC number. The EU, on the other hand, has sometimes redefined sectors (as in the case of postal and courier where it has its own definition)32 or broadened the sector’s coverage (for example, the EU negotiates on logistics instead of transport). It expects its trading partners to undertake commitments based on this definition/classification. India has raised reservation against following a particular

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30 For example, UNCPC Ver 1.0, UNCPC Ver 1.1 and UNCPC Ver 2.0. Available at http://unstats.un.org/unsd/cr/registry/regct.asp (last accessed on April 28, 2011).
32 For example, see EU-Chile FTA, available at http://ec.europa.eu/enterprise/policies/international/facilitating-trade/free-trade/index_en.htm (last accessed on April 28, 2011).
country’s/region’s classification. Classification issues have been mostly resolved and it is likely that the two economies will largely follow the W/120 classification.

(b) Scheduling Approach: A country can follow different types of scheduling approaches, such as a positive list approach\(^{33}\) or a negative list approach\(^{34}\) or a hybrid approach,\(^{35}\) for listing the services sectors for undertaking commitments in the FTA. India wants to have a positive list scheduling approach for undertaking commitments similar to that of GATS. On the other hand, recent EU FTAs such as the EU-CARIFORUM FTA follows a mode-wise scheduling approach where countries list their barriers for each modes separately. India has raised reservations against this approach and it is likely that the BTIA will have a positive list approach for services and investment.

(c) Synergies with other Areas of Negotiations: The services liberalization under the BTIA is not in isolation but is linked to negotiations in other areas such as government procurement, labor standards, subsidies and sustainable development. India is negotiating these issues for the first time and has taken a slow and cautious approach. It will be difficult for the EU, on the other hand, to negotiate an agreement which does not cover these crucial issues.

(d) Non-Harmonized EU Market: Unlike goods, the EU does not have a single market for services. Regulations and conditions differ across 27 member states and many decisions like work permit, visas and investment regimes are under the purview of the different member states. Third country service providers face several barriers in intra-EU labor mobility. For instance, an Indian software consultant with a work permit in Germany cannot offer services in Spain. Lack of harmonization of qualifications and professional standards have made it difficult for Indian professionals to services the EU markets.

India has considered this to be one of the major barriers in the EU. However, since work permits and visas are regulated by the member states, the scope for harmonization at present is limited. The EU is also trying to harmonize the professional qualifications across member states. For some professions such as architects, where there are professional bodies in all member states, the professional bodies have given authority to the Commission to negotiate MRAs with countries with whom the EU is entering into an FTA. If this is possible, it would be easier for India to enter into a MRA. However, in the case of professional services such as engineering services, there are no professional bodies in some member states while in others

\(^{33}\) In a positive list approach, countries decide the sector/sub-sectors in which they want to undertake commitments and then mention the barriers/restrictions if any.

\(^{34}\) In a negative list approach, all sectors/sub-sectors are open except those in the negative list.

\(^{35}\) A hybrid approach uses both the positive list and negative list approaches.
(such as Germany) there are multiple professional bodies, making it difficult to identify a single organization even at the member state level to negotiate MRAs. In India, engineering is not a registered profession and there is no uniform standard. This makes it difficult to harmonize the standards.

It is worth mentioning that the EU is also trying to harmonize the professional qualifications across member states. In September 2005, the EU came up with a Directive (2005/36/EC)\(^\text{36}\) on non-discrimination and recognition of qualifications across its member states. This Directive was fully transposed in all member states in September 2010, but its implications on third country service providers are not clear.

(e) **Barriers Related to Temporary Movement of People or Mode 4 Barriers**: Apart from the ones described above, Indian professionals face several barriers in the EU market. Many EU countries require foreign professionals, who apply for registration, to undertake the prescribed examinations. Apart from this, member states maintain residency/nationality and other country level requirements that impede market access by Indian service providers. For example, in Germany, registration and licensing of professions are required at different levels of government and each state has its own requirements. In some countries the visa fees are high. A BV is only permitted to stay up to 90 days, while a CSS or IP can stay up to six months in the EU. Mandatory social security contributions even for temporary workers and labor market tests in the EU have been cited as barriers. Language is an important barrier for Indians. For example, in France, a professional needs to have a minimum level (B2) of French. Hence, the bulk of trade in services is between India and the UK. In the Doha Round Revised Offer, the EU has hardly taken any commitments in IPs and CSSs. With the enlargement of the EU, some of the new EU member countries that have manpower skills similar to India’s, have expressed reservations on Mode 4 liberalization. After the global slowdown entry into traditional markets such as the UK is becoming difficult for Indian professionals since these countries are making entry requirements more stringent.

To facilitate the entry of highly skilled professionals from third countries into the EU, in May 2009 the EU came up with a Directive (2009/50/EC)\(^\text{37}\). It laid down the conditions for entry and residency for third-country nationals and possibilities of applying for a blue card. Member


states have been asked to bring into force laws and administrative procedures by June 19, 2011, to comply with this Directive. All member states are in the process of implementing the Directive. If properly implemented, survey participants believed that this might ease some of the barriers that Indian professionals face.

In the EU-CARIFORUM EPA, the EU made commitments to liberalize the movement of skilled and semi-skilled workers. The EU can make similar offers in the BTIA. However, till July 2011, negotiations in this regard have not started.

(f) **Investment related Barriers:** Overall, the numbers of sectors in which there are FDI restrictions are lower in the EU than in India. The EU companies have raised concerns about the FDI restrictions in India in sectors like insurance, retail and legal services. Similarly, there are FDI restrictions in some EU markets (such as restrictions on media ownership in Germany by non-EU entities to 25%). Each EU member state has its own rules on investment. Unlike India, in the EU, a company is treated differently based on its modes of operation. A foreign company is treated as an EU company if it is a wholly-owned subsidiary but it is treated differently if it has a representative office or joint venture. Since setting up of a wholly-owned subsidiary is expensive, this is a major barrier for Indian companies. There are often additional requirements for non-EU investors. For instance, in Greece, non-EU investors are required to obtain licenses and other approvals for mining, maritime, air transport, broadcast and banking sectors which are not applicable for Greek or the EU investors. India and the EU are likely to raise these restrictions in the BTIA, but they may continue to exist.

(g) **Regulation:** In many sectors the EU has well-defined regulations, while the regulatory regime in India is evolving. The WTO negotiations are largely “market access” negotiations but EU would like to discuss regulatory issues and ensure regulatory certainty for its industry through the BTIA. Since, regulations in sectors like energy and logistics are being formalized, it may be difficult for India to undertake commitments on regulatory issues.

(h) **Other issues:** In their respective Revised Offers submitted to the WTO in 2005, both India and the EU have already scheduled the existing market access liberalization and there is a limited scope for improvement over it. With the global slowdown, the EU has been more affected than India. Prior to the slowdown, the EU was a major proponent of financial sector liberalization but post-slowdown, EU banks like Royal Bank of Scotland have become nationalized. Hence, the negotiating positions may change. Both India and the EU have their sensitive areas. While in the early stages of negotiations, the EU had expressed interest to liberalize movement of people, unemployment and job losses after the recession has made this a sensitive sector. The
survey found that it may not be possible for India and the EU to go beyond their autonomous liberalization.

5. Conclusion

India and the EU are among the top 15 services exporters among WTO member countries and they have trade complementarities in services. India has an abundant supply of young, educated, English-speaking manpower at lower costs while the EU companies are technologically advanced and can invest in infrastructure services which India needs for its economic growth and development. The two economies are major proponents of services liberalization in international negotiations and services is an important component of on-going BTIA negotiations.

This paper found that across different sectors India and the EU have been able to clearly identify their areas of cooperation and demands in each other’s markets. There has been some progress in the services negotiations. The structure, coverage, definition and scheduling approaches have nearly been formalized. The extent of commitments that the two economies can secure in each other’s market is now being negotiated.

This paper highlights that several issues have come up during the negotiations. While some of these issues can be easily resolved, it may be difficult to address issues such as undertaking forward-looking commitments or commitments that guarantee regulatory certainty through the BTIA. Negotiations in services is complex and we found that scope for further bilateral liberalization is limited for reasons such as non-harmonization of the EU market for services, the slow process of autonomous liberalization and reforms in India and the global slowdown. Given this, it may not be possible for both India and the EU to go beyond their autonomous market access liberalization and in some cases beyond the Revised Offer submitted to the WTO. However, there is a scope for enhancing collaboration and cooperation in sectors like energy, audio-visual, R&D and transport through the BTIA. Even if the BTIA seals the autonomous liberalization, it will provide security to service providers in each other’s markets since it is not easy to rollback from a commitment taken in an FTA, compared to the autonomous regime. Given that the global slowdown and the protectionist measures across the world, this will give some certainty for long term investment and business planning.
REFERENCES


Impact of Special Economic Zones to FDI in India

Bodo Herzog
Department of Economics, ESB Business School, Reutlingen University
Reutlingen Research Institute (RRI), Reutlingen University

Martina Weberruß
Department of Economics, ESB Business School, Reutlingen University
Reutlingen Research Institute (RRI), Reutlingen University

Abstract
Since 2000, Indian special economic zones were established with the intention to attract foreign direct investment. We present a first empirical assessment with new data from 1980 to 2010 and evaluate the outcome after 10 years. In general, our empirical results confirm that special economic zones attract FDI statistically significantly. Another finding of the study is that open economies with stable inflation attract more FDI than small and closed economies.

Key words: Special Economic Zones, FDI, India
JEL classification: F13, F15, F43

1. Introduction

For centuries, special economic zones have been in existence, but only with the recent rise of globalization they have attracted new attention. India was among the first ones to recognize the potential of free zones to promote exports, with setting up the first export processing zone (EPZ) on Asian ground in Kandla in 1965 (Ministry of Commerce and Industry 2009). Since then, the concept has been widely applied all over the world with more than 2,300 zones in 119 developing and transition countries in 2008, the biggest share thereof being located in Asia (FIAS 2008).

*Corresponding author: Dr. Bodo Herzog, Professor of Economics. Address: Alteburgstr. 150, D-72762 Reutlingen, Germany. Phone: +49 7121 271 6031. FAX: +49 7121 271 6022. Acknowledgment: Thanks to Mr. Julian und Ms. Emelie Streif for his outstanding assistance and editing, and to seminar participants at ESB Business School, Zeppelin University and MIT. Email address: Bodo.Herzog@Reutlingen-University.de.
The term “special economic zone” (SEZ) describes a geographical area that has economic laws different from a country’s generally economic laws, with the underlying objective to foster economic growth and foreign direct investment. In most cases, special economic zones are open both to domestic and to foreign investors and are established to provide trade operations under a specifically designed tax and duty incentive package (FIAS 2008). They further compensate for an underdeveloped infrastructure and are implemented to smooth the transition from a closed to an open economy (Lakshmanan 2009).

In 2000, India adopted the SEZ model in order to remove administrative burdens on investors, provide better infrastructure and offer attractive fiscal incentives to investors (OECD 2009). In 2005, the SEZ Act was enacted which further encouraged the establishment of special economic zones. Since then, the number of SEZs has skyrocketed with 19 zones before the SEZ Act and as of today 105 operating and a further 580 formally approved zones, with two-thirds of them specializing in the IT-sector (Ministry of Commerce and Industry 2009). In recent years, India has experienced an enormous economic growth –7.75 % from 2000 to 2007 (UNCTAD 2009) – and enormous inflows of foreign direct investments.

In 2008, the share of world total inward FDI was 2.4 percent (Lawrence 2010). India has also gained confidence as the second most attractive country for foreign direct investment on the A.T. Kearney FDI Confidence Index – a major leap from rank 15 in 2002 (A.T. Kearney 2010). In regard of this immense performance, we ask the question: How much of this success can be attributed to SEZs in India?

This paper is organized as follows. In section 2, current literature on SEZs and their impact on FDI will be reviewed. Section 3 empirically tests the research question. The paper concludes with some remarks in section 4.

2. Literature Review

In general literature on economic zones and FDI is quite wide-ranging. However, surprisingly few studies on special economic zones (SEZs) deal with the impact on FDI in India.
In economic literature the impact of SEZs on FDI is not clear at all. Even though a great part of the literature argues that SEZs have become a common way to attract FDI. However, empirical evidence is often lacking. Ge (1999a), Madani (1999), Graham (2004), FIAS (2008), Kinoshita (2008) and PwC (2008) all argue in favor of SEZs attracting FDI. But they also suggest that their findings cannot be applied to all countries and zones since the success depends on factors such as the investment climate and regulations within the zone. Studies in the case of the Senegal EPZ, support this argument (Madani 1999; Graham 2004).

A study by Ge (1999b) refers to FDI as a “main vehicle for transferring capital, technology and knowledge from developed to newly industrialized countries” and confirms EPZs in many cases as an effective mean to attract FDI. Yehoue (2005) adds a point and highlights the importance of clusters for attracting foreign direct investment. Observing existing SEZs, Cling and Letilly (2001) find that special economic zones do not always stimulate economic development. However, Lakshmanan (2009) identifies SEZs as an important growth determinant by creating new infrastructure and improving export competitiveness. Kowalksi and Dihel (2009), however, point out possible negative impacts on the domestic economy through, in some cases, discriminatory export-oriented policies in SEZs. We try to shed more light on the mixed evidence in respect to FDI and SEZ in India. In contrast to most papers we approach the evaluation in an econometric study.

3. **Analysis and Results**

The empirical analysis addresses the impact of FDI to SEZ in India. For FDI we use the data from the UNCTAD online database. The remaining data is from the Reserve Bank of India and from the World Bank “World Development Indicators & Global Development Finance” online database. At last, a dummy variable is introduced which illustrates the time before and after the SEZ model (Ministry of Commerce and Industry 2009). Furthermore, we have data to measure “Business Freedom” calculated by the Heritage Foundation and The Wallstreet Journal. The dataset contain yearly observations for the time period 1980 to 2008 respectively 1995 to 2008.

The dependent variable is the value of total foreign direct investment in India. The study’s main variables of interest are exports from special economic zones (SEZ) and trade openness in relationship to the size of countries (trade to GDP ratio). Thus, the SEZ variable is a prefect proxy of the performance of special economic zones. All goods manufactured within an SEZ
that are either exported into India (outside the zones) or abroad are counted as exports from SEZs. We use other control variables to examine country-specific conditions as in similar studies (Chuhan et al. 1993; Lim 2001; Kahai 2004; Kok and Ersoy 2009). However, due to data availability and multicollinearity we included only special control variables. We estimate alog-equation with ordinary least square and two-stage OLS technique. Moreover, we control for autocorrelation, special effects and events such as the different onset of SEZs in India. Our estimates are based on variants of the following benchmark model:

\[
\ln FDI = \alpha + \beta (\ln SEZ) + \beta (g \ln GDP) + \beta (\ln infl) + \beta (\ln Trade/GDP) + \beta (\ln BsnFree) + \beta (\ln FiscFree) + \beta (Dummy SEZ) + \varepsilon
\]  

where \(\ln\) represents the natural logarithm, \(FDI\) Foreign Direct Investments, \(SEZ\) Special Economic Zones, \(GDP\) Gross Domestic Product, \(infl\) inflation, \(BsnFree\) indicator of business freedom, \(FiscFree\) indicator of fiscal freedom. Furthermore, we estimate a SEZ dummy variable which is one for SEZ in India, otherwise zero.

As expected in models (2) and (4), there is a statistical significant positive relationship between FDI and special economic zones (Table 1). Moreover, within the long time series (Model 1 and 2) we found that trade openness is positively related and statistical significant to FDI in India (Table 1). In addition low inflation rates also promote FDIs. Model 1 and 2 show a negative impact of inflation to FDI at a 5 percent significance level. All other variables are listed in Table 1.

The regression coefficients for exports from SEZs are only significant when not controlling for market size. In these cases, the highly significant results indicate that exports from special economic zones attract FDI. Either way, increasing exports from SEZs could also attract additional foreign firms into India which possibly hope for agglomeration effects as studied by Yehoue (2005). The results of the regression support the strong positive correlations between
special economic zones and FDI in India. The SEZ dummy, which was included into the model in order to test for the impact of the SEZ policies, is unfortunately only significant in model (1) and surprisingly displays a negative sign. So even though the correlation between FDI and the dummy variable was strongly positive, the regression results indicate that the dummy variable actually negatively impacts FDI in our time period. Surprisingly, fiscal packages implemented within SEZs in India, for instance minimum scale of regulation, seem not to have a big statistical effect. The sign of the other control variables areas expected. They confirm the relationship as in a related research paper by Lim (2001).

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Model (1)</th>
<th>Model (2)</th>
<th>Model (3)</th>
<th>Model (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(constant)</td>
<td>-26.292**</td>
<td>7.949***</td>
<td>-63.629***</td>
<td>7.366**</td>
</tr>
<tr>
<td>ln SEZ</td>
<td>-.133</td>
<td>.445***</td>
<td>-2.69</td>
<td>.531***</td>
</tr>
<tr>
<td>ln GDP</td>
<td>3.004***</td>
<td></td>
<td></td>
<td>5.987***</td>
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<tr>
<td>g ln GDP</td>
<td>-553**</td>
<td>-.263</td>
<td>-.651***</td>
<td>-.131</td>
</tr>
<tr>
<td>ln infl</td>
<td>-.301**</td>
<td>-.331**</td>
<td>.096</td>
<td>.240</td>
</tr>
<tr>
<td>ln Trade/GDP</td>
<td>1.695***</td>
<td>2.174***</td>
<td>-1.514**</td>
<td>.674</td>
</tr>
<tr>
<td>Dummy SEZ</td>
<td>-.444**</td>
<td>-.239</td>
<td>-.072</td>
<td>.125</td>
</tr>
<tr>
<td>ln BsnFree</td>
<td></td>
<td></td>
<td>-.052***</td>
<td>-.036</td>
</tr>
<tr>
<td>ln FiscFree</td>
<td></td>
<td></td>
<td>-.007</td>
<td>.020</td>
</tr>
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R² | 0.992 | 0.988 | 0.998 | 0.988 |
F-statistic | 576.584 | 451.378 | 851.876 | 152.986 |
Sign. | 0.000 | 0.000 | 0.000 | 0.000 |

a. Dependent Variable: ln FDI
b. ***, ** and * indicate the regression coefficient if significantly different from zero at the 1%, 5% and 10% level respectively
c. Source: UNCTAD, RBI, World Bank, Heritage Foundation and the Wallstreet Journal

Our empirical results confirm that both SEZs and trade openness are important variables for the FDI performance. The set-up of SEZs and the trade variable are both positively linked to FDI. Therefore, both variables foster FDI growth and hence economic growth in the long-run in India. Finally, the results show that price-stability or a low inflation rate promotes FDI dynamics significantly in India.
4. Conclusion

This study has empirically investigated the contribution of SEZs to FDI in India. In broad terms, for FDI the correlations proved to be strong and explained much of the observed FDI inflow in India. Moreover, our results indicate that the performance of special economic zones to FDI is statistically significant and positive. Considering the identified determinants of Indian FDI, it is of interest to further look into the reason what makes special economic zones beneficial. Is that because of special grants as duty-free imports or tax-exemptions for the first five years or because of the beneficial economic transformation process introduced within such zones? All questions remain open for further research.

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India’s Skilled Manpower – a Road Map to Indo-EU Sustainable Growth

Vipin Agrawal
Founder and Managing Director
Vibhuti International Foundation for Learning and Research Technologies (VIBTECH)
(A Section 25 Company in the process of incorporation under Indian Companies Act 1956)

Abstract

The economy becomes more productive, innovative and competitive through the existence of skilled human capital. Skills and knowledge are the driving forces of economic growth and social development of any country. Last few decades have demonstrated that global economies are truly interdependent and are becoming increasingly integrated. Globally integrated economies require globally integrated societies.

Skilled human capital will have to be provided to certain regions to sustain their economic growth. Therefore the issue of skill development is of great significance for both developed as well as emerging economies. The developed world has a huge stake in ensuring that the human resources available in large numbers in developing economies are adequately empowered by investing in their education and skill development. The demographic dividend in some regions should not remain unutilized or underutilized. A globalized world will ultimately require redistribution of human skills in regions which witness a ‘demographic deficit’.

India and EU are currently discussing issues on labour market policy, skilling and labour mobility. The study has reinforced the need for continuous focus on skilled human capital to ensure more sustainable growth. India and European Union should come together for improving labour skills to increase employability of workforce in the current global economic crisis. The paper discusses the historical background of Indo-EU growth relations and future outcomes terms of the sustainable growth of both regions.
1. Introduction

The task of nation building, reducing poverty and ensuring productive employment, cannot be met without a large stock of human capital equipped with quality knowledge and skills. Accordingly, increased emphasis on skill development, universalisation of secondary education and significant expansion of higher education are priority areas for India. Plans have been formulated and goals set for vocational training, skill development and growth of technical institutions. This would equip Indian youth to meet the challenges of a globally competitive environment.

Out of a labour force of around 470 million in India a significant proportion is in the age group of 25 to 45 years. India recognizes the importance of this demographic dividend, Government of India has taken ambitious policy measures which focus on the skill development and vocational education. These would meet the future demand supply gaps and equip Indian workforce for finding decent and productive employment in a competitive environment.

In order to meet the future challenges India need to take major initiatives to enhance the skill development in country. Skill development is an important policy tool for Indian Government to enhance employability and earning capacity of work force. Government of India is promoting Skill Development that is socially inclusive and equitable. In this direction “National Policy on Skill Development” has been approved by Government of India which aims at empowering all individuals through improved skills, knowledge and internationally recognized qualifications. This would help them gain access to decent employment and ensure India’s competitiveness in the dynamic Global Labour market. The National Policy on Skill Development has set a target of skilling 500 million people by year 2022 to meet the emerging challenges.

The upgradation of Industrial Training Institutes has been taken up under various schemes. This includes upgrading the infrastructure facilities including tools, machinery and equipment, Training of Trainers and upgrading classrooms and teaching aids. Skill Development Initiative has been launched in year 2007. Under this “Modular Employable Skill” programme has been
started in which short term modular training programmes in flexible delivery schedules are being organized. In 52 sectors a total number of 1158 courses have been developed for imparting skills. The assessment of competencies of trainees under these training programmes are carried out by third party independent Assessing Bodies. Certification is done by National Council for Vocational Training for ensuring quality skilled manpower. The scheme has gained momentum and the progress made is noticeable. Around 0.7 million persons have been trained so far.

Transformation of India as a Knowledge Hub

India is a sleeping giant, waiting for the opportunity to be awakened and serve as a production base for organizations from the developed world. Credit Suisse First Boston (CSFB) has predicted that India will be the next economic miracle in Asia, terming the country as the stealth miracle economy of the past half-decade. India has established itself as the largest democracy in the world, with democratic institutions as much in place there as in other developed societies. Since India’s independence, which transformed the populous from subjects to citizens, no military coup or any deplorable suppression of civil rights has occurred. The journey to full-scale democracy is still not over, but it’s getting there, and this has given an expression to the will of the people and a dream of economic democracy. This dream is being nurtured in the minds of the people, but is being shaped by the liberal political and economic ideals of the society.

The will of the people is to see themselves excel in technology and support fields, which can, if given the right direction, transform the country into a leading technology support nation. With the largest technical manpower pool second only to that of the U.S., India is capable of delivering the best in technology mainstream and can be tapped for the same by the leading multinationals. On the economic front, India has the necessary infrastructure and is reasonably cost effective, as well. The roads, air travel, and sea route facilities are not far from the best of the third-world countries.
Because of increasing no. of skilled manpower, India is today one of the few, if not the only, leading developing country which has attracted investment in scores of R & D centers wholly funded and established by reputed multinationals like GE, CISCO, Sun Microsystems, Microsoft, IBM, Hughes Software, Intel, Oracle, Lucent Technologies, Microsoft Sun Microsystems and Texas Instruments, and so on. India belongs to the select group of the 17 fastest growing economies among the world’s 132 [1].

The Second World War marks a crucial watershed in the history of the genesis of Indian diaspora formation through emigration to the developed world [2]. It was the beginning of the transformation of Indians’ presence in the developed countries – from one that was miniscule, transitory and peripheral, to one that became more substantial, permanent and central. The largest number of migrants in this period went to the UK, some because of old colonial links and others because of wartime experiences as soldiers and seamen. Subsequently, many more arrived after the 1947 partition of India that preceded its Independence. This was subsequently strengthened by the nexus of kinship and friendship, mainly originating from the state of Punjab, which enabled others to tap the economic opportunities in the broader labour markets abroad.

Some of the more significant reforms in India have been the simplification and rationalization of direct taxes; reduction of the peak rate of customs duty to 50%, with duty rates on many goods brought down to the 10% to 25% range; full convertibility of the rupee on current accounts; a new export— import policy incorporating simplification of procedures and transparency of transactions, along with various export promotion and import liberalization measures; elimination of industrial licensing requirements for all but 16 industries; elimination of the need for prior approval by large companies for expansion or diversification; bringing down the areas reserved for the public sector from 17 to 8; and, in the case of foreign investment, automatic approval for foreign equity of up to 51% in 34 priority industries [1].
Methodology

A workforce that meets the needs of businesses is vital to ensure that the global economy flourishes in the future; addressing shortages with strategic migration in the short-term and changing perceptions and training programs in the long-term is the key to creating an environment which encourages infrastructure projects and growth. While this research paper discusses how appropriately flexible or strategic skilled manpower helps in the growth of European Union, it also highlighted the Skill Gap in the European Countries.

Skilled manpower is key to plugging a significant portion of the talent gap, it goes far beyond that. The migration constraints associated with talent mobility is an issue that affects all career fields and therefore, impacts all countries and will be one that governments around the world will need to collaborate with businesses, trade, academic and educational institutions in order to fuel healthy economic growth and prosperity in the future. The study has discussed the issue with the help of literature review which focuses on this vital issue of India’s role in European Union Growth.

2. Literature Review

The story begins in 1950s influenced [39] by authors who gave emphasis to economic growth as the solution to poverty alleviation. Even at that early time, some economists and planners were utterly clear that economic growth is not the actual target itself, but a performance test of development.

There are different facts and figures to highlight the importance of human factor in the inputs for the production [40]. Besides, Land, Labour and Capital he includes three non- conventional variables of inputs: technology, organization and human capital. Further with authentic macro-level facts, he emphasizes that investment in the human factor may well have a higher pay-off in terms of increased output than does any other input.
It is believed to as one of the conceptual works that break the ice in the area of human capital theory and provide the basics of modern human development approach. [41] As he says in his research article, “By investing in themselves, People can enlarge the range of choice available to them.” (pp. 2)

It is also considered as the foundation of human capital theory [42]. It gives the conceptual foundations; it builds up strong mathematical statistical and analytical foundations in the theory of human capital, which ultimately decide the path of human capital research.

Research tries to highlight the need to be further precise on the purpose of economic development and the interdependence between values and goals [43]. By reviewing two studies [44, 45] the author goes through the analysis of growth and welfare approaches and highly emphasis the accumulation of human capital first and growth later for sustaining the development.

The study examines the relationship between the basic needs fulfillment and productivity change in a big sample of 54 poor nation of Asia, Africa and South America. He uses the growth model. For basic needs variables, he uses widespread measures of education, health and nutrition. He obtained results through the technique of three-stage least squares method. [46]

This study tries to develop a suitable model of relationship between basic human needs and national income and talks about the factors affecting a country’s efficiency [47]. He uses a quite big sample of 116 countries from 1950 to 1980. He claimed that the basic needs are crushed out mostly after a certain level of national income is reached; He called this incident as a “plateau curve”. Ignoring all other measurement indicators for basic human needs he uses infant mortality rate as the indicator of basic needs and real GDP per capita is taken as the national income indicator. As the data for infant mortality are available in five-year periods by UN estimates, the annual GDP data was also transformed to the five-year period for estimation purpose.
This study firstly explore the relationship between human development and economic growth in such a way that how and which variables are in consideration when there could be transformation from economic growth to human development given the name as ‘Chain A’ and the reverse chain which is given the name as ‘chain B’, that is how and which variables are used when human development contribute towards economic growth. In fact, the paper is about Pakistan’s growth and human development in global perspective. The authors’ sample was 35 to 76 developing nations for the years 1960 to 1992, conditioned to the data availability, so firstly, they explained chain A and B, secondly they produce the findings of cross-country empirical analysis and finally they presented Pakistan’s performance regarding the interrelationship of human development and economic growth. [48]

This study examines the role of human capital in economic growth in two developing countries, Pakistan and Sri Lanka. In fact, he treated human as a factor of production and did not concern human development perspective. For this purpose, he compares the two nations. The sample time period is 1970 to 1994 [49]. He uses production function, where GDP is the dependent variable and the independent variables are: employment rate, physical capital measured as gross domestic investment, and human capital measured as schooling enrolment rates (Higher, secondary and primary)

3. The Sustainable Growth Trends

With the population touching 1.2 billion, half of which is around 25 years of age, India is set to be among one of the top countries for human capital in the next two decades. Asia, India and China in particular continue to contribute to the global talent pool in unprecedented ways, even as their economies open themselves increasingly to global forces. According to Harvard University’s Richard Freeman, this phenomenon marked by a large number of humans entering the global workforce is a watershed event in economic history [3].

Post-liberalization, India has followed an unprecedented growth trajectory and momentum in the 1990s to emerge as the third largest economy in the world when measured in purchasing power
Waves of reform have brought several sectors of the Indian economy closer to a market-based system and helped the growth rate to soar above the decades-old 5% rate to an average rate of 7% every year. Foreign exchange reserves have grown from US$5.8 billion in March 1991 to US$275 billion in 2007 (Ministry of Finance 2007–8). Annual GDP per capita growth has spiraled from 1.25% since independence to 7.5%, a rate of growth that, according to the Organization for Economic Co-operation and Development (OECD) report, will double average income in a decade [4].

State-intervention in several areas of economic activity has been minimized and, with minor exceptions, most areas are witnessing a silent private entrepreneurial boom. Incidentally, this growth is fuelled by a variety of factors like a boom in certain sectors, foreign direct investment, rise in inward remittances from NRIs, enhanced domestic savings and investments, increased government spending in priority sectors like health, education and infrastructure, and removal of trade-related barriers.

At over $22 billion per annum, India receives the largest amount of remittances in the world than any other country from the 25 million people of Indian origin and non-resident Indians living abroad.

The Indian IT-ITES industry has clearly emerged as the poster child of India’s growth story and has turned India into the back office of the world for a multitude of services. With US$40 billion in revenues in 2006–7, the industry has evolved in size, scale and complexity. The BPO industry alone is $11 billion, employs more than 700,000 people across 25 countries and accounts for 40% of the global BPO offshore market. As per a study jointly conducted by the National Association of Software and Services Companies (NASSCOM) and the Everest Group, the share of the BPO industry is likely to climb up to $50 billion by 2012 [5]
Demographic Trends

India has a population of 1.12 billion (as per census estimates in 2001, the population was 1.027 billion), which is expected to reach 1.8 billion overtaking the Chinese population by 2050. Incidentally, of this population, nearly 50% are below 25 years of age, and less than 10% are above 65 years of age (Ministry of Finance 2007–8). Consequently, India has the world’s second largest labour force, with 509.3 million people, 60% of whom are employed in agriculture and related industries; 28% in services and related industries; and 12% in industry. Population projections indicate that India will continue to have a larger share of working population for a sustained two to three decades further boosting the growth of the economy [6].

Table - 1

Demographic Trends

<table>
<thead>
<tr>
<th>Population (Millions)</th>
<th>Average Annual Growth Rate</th>
<th>Median Age</th>
<th>Employment to Population Ratio</th>
<th>Adult literacy ratio - (% ages 15 and older)</th>
<th>Population with at least secondary education (% age 25 and older)</th>
<th>primary enrolment ratio (% of primary school-age population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>862.2</td>
<td>1214.5</td>
<td>1484.6</td>
<td>2</td>
<td>1.3</td>
<td>21.1</td>
<td>25</td>
</tr>
</tbody>
</table>

Source: Human Development Report 2010

India’s educated workforce presents a staggering opportunity for both private and public sector enterprise. India has some 22 million graduates, including 6 million science graduates, 1.2 million with engineering degrees and 600,000 doctors, according to data compiled by The Economic Times Intelligence Group, the National Association of Software and Service Companies (NASSCOM) and other industry sources. While this population grows rapidly every year, India’s closest competitor in the talent race, China, is a tad behind on the overall numbers but clearly overtaking it by churning out twice as many engineers than India produces. India produces about 200,000 engineering graduates every year [6].

India has over a million primary and upper primary schools catering to the young. With 146,000 secondary schools, over 17,625 colleges, 335 universities and many other national institutions,
India’s educational infrastructure is still seen wanting in many respects. Incidentally, there are about 1349 engineering colleges of which over a thousand offer computer applications courses. [7]. These institutions are manned by 500,000 teachers, professors and other categories of staff. Though India has made several strides towards achieving total literacy since its independence, the literate population in 2001 stood at 65% with the gap between male and female literacy touching 20%. Oddly, nearly ten million children are estimated to be school dropouts, although there is a decline in the trend due to the efforts of many non-governmental and governmental agencies. [7]. As per Human Develop Report, 2010 the Human Development Index of India is consistently improving.

### Table - 2 Human Development Index (Value)

<table>
<thead>
<tr>
<th>Year</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>0.320</td>
</tr>
<tr>
<td>1990</td>
<td>0.389</td>
</tr>
<tr>
<td>1995</td>
<td>0.415</td>
</tr>
<tr>
<td>2000</td>
<td>0.440</td>
</tr>
<tr>
<td>2005</td>
<td>0.482</td>
</tr>
<tr>
<td>2009</td>
<td>0.512</td>
</tr>
<tr>
<td>2010</td>
<td>0.519</td>
</tr>
</tbody>
</table>

*Source: Human Development Report 2010*
Given the huge administration network, the government has emerged as the largest employer. The country is administered by a large number of civil servants who are selected through a competitive screening process. The total number of employees employed by the government alone stands at 19 million [7].

**Emerging Economic Giant**

After spending several decades slumbering though a placid growth rate, India is now touted to be moving rapidly towards becoming an economic powerhouse, growing at a scorching rate of over 9% per year. India is also expected to have a skilled talent pool of about 40 million and be in a position to supply a large number of workers to other countries. In an interview given to Knowledge@Wharton, Manish Sabharwal, Chairman of TeamLease – India’s largest temping firm, claims the Indian workforce will constitute 25% of the world’s workforce by 2012 [8]. As the population in developed countries ages, countries like India and China are slated to become chief exporters of talent.

The enticing prospects of the vast markets of India (estimated population of more than 1 billion) keep merchants, entrepreneurs, and businessmen coming back. The latest candidates dazzled by the possibilities of enormous wealth are computers and software. The IT industries in India and China have been prominent for the past several years, ranking at or near the top of the global IT players’ list. Products associated with computers and integrated circuits (IC), such as PCs, electronic consumer products, laptop or notebook PCs, as well as their key components and display channels, have become major products in China, while the software needed to drive all these devices has become a value-added industry in India.

Although technology imports eased considerably during the 1980s, it was the 1991 opening of the market to imported goods and new foreign producers that dramatically altered the technology landscape. Many firms began to invest in new technology both for efficiency gains and for quality improvement. Today the IT sector in India is the country’s fastest-growing segment. Even during the challenging global economic environment of 2001–2003, the software
and services industry (a major component of India’s IT sector) showed significant momentum, higher than that of other industries in the country.

Compared to other competitors such as Ireland, the Philippines, and China, India won the bulk of the global ITES/BPO business because of its price/performance/quality strengths. India’s enormous English-speaking scientific manpower base ranks second only to the US (in terms of numerical strength). Call centers and business process outsourcing are emerging as the next growth segment in India. The ITES segment currently employs approximately 70,000 people and accounts for 10.6% of the total IT software and services industry revenue. The ITES/BPO industry has taken root in most of India’s leading cities, including NCR, Mumbai, Bangalore, Chennai, Kolkata, Hyderabad, Kochi, Ahmedabad, and Pune [9].

The Indian government’s policies regarding IT innovation fall into two distinct stages: 1970–1990, and after 1991. In June 1970, after recognizing the importance of developing an integrated and self-reliant national electronics industry that would progress rapidly, the Indian Government initiated a separate Department of Electronics. In the 1980s, to make it easier for potential software exporters to get started, the government lowered duties on software imports and simplified import procedures. It also allowed all export-oriented companies to bring in hardware without any duties. During this period, the government acted as the gatekeeper for electronics technology diffusion into the country, laying down a specific locus of growth and deciding which technologies would be imported. However, this controlled approach proved to be a failure [10, 11, 12, 13].

In an effort to achieve techno-economic development, India has adopted a two-pronged approach: (1) creating a climate for indigenous development of technology in the country; (2) transferring and adapting technology from other advanced countries. In the past, most industries were under the umbrella of government protection and were primarily concerned with managing production with very little thrust toward innovation. Today, things have changed drastically. The industrial organizations that earlier only managed production now seek innovation and have established in-house R&D units. National laboratories for scientific and industrial research must earn their R&D allowances by commercializing indigenously developed technologies and promoting applied R&D projects, which results in the generation of patents instead of buying industrial R&D. This has also meant additional opportunities for entering into joint ventures for growth [14, 15].
The highly skilled Indians have migrated to the developed countries not only through the employment gate; another stream of skilled migration has been taking place through the academic gate as growing pools of revolving students formed a distinct set of actors amongst the Indian migrants – the semi-finished human capital of Indian professionals abroad [16,17].

4. Emergence of Global Knowledge Economy

More people from more diverse places are interconnected more fully through markets than was the case in previous centuries. The products that they are exchanging derive more of their value from skills and ideas than from brute labor and raw materials than they used to. These trends could be mutually reinforcing. Globalization may continually create larger markets and new niches for knowledge-intensive products; knowledge-intensive producers may gain access to a greater number and variety of skills and ideas as the new century wears on.

The inflow of foreign skilled labor decreases unemployment. For example, this may occur when domestic firms recruit skilled engineers or excellent experts from abroad. The increase in foreign skilled labor decreases the urban unemployed-employed ratio if the manufacturing sector is capital intensive with respect to skilled labor; an example of this is if the manufacturing sector is a traditional industry such as machinery and automobile industries. On the other hand, the effect is reversed and proves to be harmful if the manufacturing sector is skilled labor intensive, for example, if the manufacturing sector is a high-technology industry such as computer and biochemical industries.

If the manufacturing sector is capital intensive, the increase in skilled labor expands the output of the agricultural sector and contracts that of the manufacturing sector. This induces the flow of skilled labor as well as capital from the manufacturing to the agricultural sector. As a result, there is an increase in the marginal value product of the agricultural sector and an expansion of employment in the sector. This implies that some unemployed workers secure jobs in the agricultural sector, which turns out to be more attractive than it was before the inflow of foreign
skilled labor. If the increase in skilled labor enhances the production of the agricultural sector, the agricultural wage rate increases and unskilled workers are willing to work in the sector. As a result, the urban unemployed–employed ratio of unskilled labor decreases because unskilled workers return to the rural area.

At the moment, however, the gap is wide between those who have the potential to contribute to the global knowledge economy and the actual contributions of the privileged few who currently comprise its talent pool. Narrowing this gap would not only benefit those individuals whose creative potential is thereby realized, but global society as a whole, as the value that those individuals create spills over to the public at large.

The growing competition among countries like the US, UK, Canada, Australia, New Zealand, Ireland, and Singapore, as well as non–English speaking countries like France, Germany, and the Netherlands, has brought even the Ivy League institutions to India, and to other South Asian countries, to look for the cream of students [18].

The Socio–economic and political profile of the skilled Indian Manpower in the developed countries reflects the empowerment of the Indian migrants in the developed countries over time. Within the European Union (EU) – the largest economic entity in the world today – two–thirds of the entire Indian migrant community still resides in the UK. The Indian community is one of the highest–earning and best–educated groups, achieving eminence in business, information technology, the health sector, media, cuisine, and entertainment industries.

A rapidly aging population coupled with an increasingly better standard of living amongst its citizens has prompted the European Union to look towards Asia, specifically India, to bridge a yawning labour supply gap. In recent past, the ministry of overseas Indian affairs has negotiated with Belgium, Poland, Sweden and France to facilitate migration of skilled professionals from India over the next few years. It is a win-win situation. While Europe requires skilled personnel like engineers and health workers and those in other semi-skilled professions, the EU provides a
good alternative for Indians facing laws that discourage migration in US and UK and human rights issues in the Gulf countries.

**Brain Drain to Brain Gain**

Better management of highly skilled people may provide one way to address the problem of brain drain. What was once viewed simply as a brain “drain” from developing countries to developed ones is now variously labeled brain “strain” [19], brain “circulation” [20], and even brain “gain”. [21] These more optimistic assessments (from the developing country perspective) remain, however, possibilities whose realization depends on policy choices that are far from certain.

OECD research shows that the number of students studying abroad has doubled over the past 20 years [22]. Some 700,000 students from developing countries now study in OECD countries. China is the largest source of students from outside the OECD, accounting for more than 8% of this total, followed by Malaysia, India, Indonesia, Singapore, and Thailand, which account for another 12% [23]. Goldin and Reinert [24] estimate that there were another 600,000 highly skilled expatriates in the world in the early 2000s, primarily expatriates from developing countries who were working on temporary visas in the OECD. The possibility that migration may induce larger domestic investments in skills and education than it takes away has been investigated empirically in a preliminary fashion.

At the national level, Beine et al. [25] conclude that large countries that include nearly 80% of the world’s population do indeed benefit from this effect, even though a larger number of smaller countries are disadvantaged. In a finer grained study of the Indian software industry, Commander et al. [50] corroborate this finding, emphasizing that the induced demand for training has led to the creation of new educational institutions in India.
5. India’s Skilled Manpower - A Competitive Advantage

Quality of human resources is a critical factor in determining comparative advantage [26, 27]. The availability of the world’s largest pool of low-cost, English-speaking, scientifically trained “manpower” has been India’s major source of competitive advantage and success in outsourcing.

Prior research has identified a number of catalysts that have influenced the growth of the software segment. [28 – 32]. Table three shows the strength of Indian academic output as a competitive advantage.

Table - 3
Indian Educational Profile Overview

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education Spend (% of GDP)</td>
<td>3.7 percent (10th Five Year Plan (FYP)) 6 percent (Proposed in 11th FYP)</td>
</tr>
<tr>
<td>Target Population (5-24 years)</td>
<td>445 Million (2008) 486 million (2025 E)</td>
</tr>
<tr>
<td>Schools and Institutions</td>
<td>A network of 1.3 million schools, 20000 Higher Education Institutions (HEIs) and 350 Universities.</td>
</tr>
<tr>
<td>Key Private Players</td>
<td>Educomp, Everonn, NIIT, Kidzee, Career Launcher, Core Projects</td>
</tr>
</tbody>
</table>


The catalysts include the general liberalization of the Indian economy; government policies favorable to software and telecommunications; entrepreneurial Indian firms (such as TCS, Wipro, and Infosys) that exploited the opportunity in the 1980s and 1990s to export highly trained engineers to the United States to do programming work for U.S. firms (a practice known as “body shopping”); the Y2K crisis, which popularized India’s reputation in software; the Indian diaspora in Silicon Valley; and, finally, India’s large pool of low-cost, skilled, English-speaking software professionals. The reputation developed by India’s software segment by the 1990s, in turn, was a key catalyst in the development of the BPO segment in the late 1990s and early 2000s, along with the availability of telecommunications bandwidth at lower prices, technological developments such as the ability to digitize documents, a growing opposition to “body shopping practices” in the United States, and global competition that forced U.S. firms to look for cheaper locations to locate low-end business processing work. The pioneering efforts of large MNCs such as GE, American Express, and British Airways in setting up outsourcing operations in India to capitalize on the huge salary cost differentials between similarly trained
employees in India and the United States paved the way for more firms to emulate their practices [31].

6. India’s Relations with European Union

The diversity within the respective regions is a similarity that exists between India and the EU. The EU comprises 27 nations, while India consists of 28 states. ‘Unity in Diversity’ therefore holds very well for both the regions. Due to this characteristic, both India and the EU face similar challenges in areas of policy making and execution of the same. Additionally, India’s demographic dividend can fill the EU’s labor supply gap, thereby, ensuring a steady supply of young professionals to EU member countries.

India’s relations with the EU date back to as early as 1962, when India established diplomatic ties with the European Economic Community (EEC). Further, talks on an India-EU FTA commenced in 2007. India and the European Union, both share common values and beliefs that make them natural partners. Both also seek ways to take advantage of globalization through developing skills and strategic partnerships. The demographic profile of the two regions also provides ample opportunities to draw potential benefits from a synergistic relationship.

Table - 4
Evolution of Indo-EU Bilateral Relationship

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1963</td>
<td>India established diplomatic relations with the European Economic Community (EEC).</td>
</tr>
<tr>
<td>1971</td>
<td>The EEC initiated general tariff preferences for 91 developing countries, including India.</td>
</tr>
<tr>
<td>1976</td>
<td>The EEC donated USD 7.5 million for drought relief in India.</td>
</tr>
<tr>
<td>1981</td>
<td>India and the EEC signed a five-year economic and commercial cooperation agreement.</td>
</tr>
<tr>
<td>1983</td>
<td>The EEC established a delegation in New Delhi, India.</td>
</tr>
<tr>
<td>1988</td>
<td>India held its first joint meeting with the European Commission.</td>
</tr>
<tr>
<td>1989</td>
<td>The EC-India cooperation and exchange programme (EICEP) was launched to facilitate the exchange of faculty members between the management schools of the two regions.</td>
</tr>
<tr>
<td>1991</td>
<td>The European Community Investment Partners (ECIP) scheme was launched to finance EU-India joint ventures among small- and medium-sized enterprises (SME).</td>
</tr>
<tr>
<td>1992</td>
<td>The EU contributed USD 190 million to the district primary education programme in India.</td>
</tr>
<tr>
<td>1993</td>
<td>A cooperation agreement on partnership and development was signed between the EU and India.</td>
</tr>
<tr>
<td>1996</td>
<td>The EU-India Enhanced Partnership agreement was signed.</td>
</tr>
<tr>
<td>1996</td>
<td>The EU provided a grant of USD 253 million for health and family welfare in India.</td>
</tr>
<tr>
<td>2000</td>
<td>The first EU-India summit was held. The EU-India civil aviation agreement was signed during the summit.</td>
</tr>
<tr>
<td>2001-2005</td>
<td>EU-India summits were held each year to strengthen the relationship.</td>
</tr>
</tbody>
</table>
Indian firms, for their part, embarked in two distinct waves after inroads into Switzerland and Germany in the early 1960s [33]. From the late 1980s to the early 1990s, several takeovers by state-owned enterprises (SOEs) took place in Europe. In parallel, Indian private groups acquired the physical assets from the sale of plants within privatisation programmes in Central and Eastern Europe. In the early 2000s, numerous acquisitions by pharmaceutical companies across Europe initiated a second wave. Ironically, Ranbaxy Laboratories which was the leader in this acquisition spree – from 2000 to 2006, it took participations in six European companies such as Bayer from Germany and Aventis from France – was lately acquired by a Japanese company. The set-up of numerous representative offices and development centres across Europe by Indian IT firms was another driving force. The primary motive was here to enlarge customer bases.

**Department of Science and Technology (DST), India and Member State of EU Research Initiative –**

The Department of Science and Technology, India and the Engineering and Physical Sciences Research Council (EPSRC), UK on 23 April 2009, signed a cooperation agreement to co-fund a joint research initiative in Solar Energy. The agreement conveys the two countries to cooperate towards fostering of genuine and mutually beneficial research to develop novel materials, devices and systems applicable to solar energy. The areas of mutual interest identified for cooperation include the following:

1. Thin Film Performance and Stability
2. PV power systems and distribution
3. Cost Effective isolated PV Systems
4. Low cost materials for PV and
5. Excitonic Solar Cells with focus on cost reduction

Science Bridge initiatives with UK and Indo-EU S&T cooperation projects received funding support to the tune of 10 million UK pounds and 5 million Euros, respectively from both sides. Following Bilateral Workshops were organized under S&T Programme of Cooperation –
<table>
<thead>
<tr>
<th>Themes of Bilateral Workshop</th>
<th>Partner Country</th>
<th>Venue Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustainability</td>
<td>Germany</td>
<td>IIT, Delhi, February, 2010</td>
</tr>
<tr>
<td>Fuel Cell Technology September, 2010.</td>
<td>UK</td>
<td>Centre For Fuel Cell Technology, Chennai,</td>
</tr>
<tr>
<td>Bridging the Urban / Rural Divide</td>
<td>UK</td>
<td>Magan Sangrahalya Samiti, Wardha, October, 2010</td>
</tr>
<tr>
<td>Water &amp; Bio-resources</td>
<td>EU</td>
<td>New Delhi, November, 2010</td>
</tr>
<tr>
<td>Water Technology</td>
<td>EU</td>
<td>IISc. Bangalore, November, 2010</td>
</tr>
<tr>
<td>Global Outreach of Indian &amp; European Innovation Clusters</td>
<td>EU</td>
<td>MDI Gurgaon, December, 2010</td>
</tr>
</tbody>
</table>

Most international investment in R&D is still confined to developed countries, both as host and as home countries, but the importance of emerging countries is rising, especially due to the growing relevance of China and India in global innovation networks [34, 35].

In a Green Paper issued in 2007, the European Commission states that “a sense of urgency in revisiting ERA stems from the fact that globalization of research and technology is accelerating and new scientific and technological powers –China, India and other emerging economies– are attracting considerable and increasing amounts of R&D investments. These developments raise the question of Europe’s ability to sustain a competitive edge in knowledge and innovation” [36].

**Sectoral Opportunities Identified…**

Even as the EU continues to be India’s largest trading partner and biggest foreign investor, there is immense scope for greater engagement between the two, especially in certain key sectors. To further demonstrate the partnership potential, sectoral opportunities have been identified, namely -- agro and food processing, diamond, gems and jewellery, education, fashion, financial services, IT/ITeS, infrastructure, energy, pharmaceutical, biotech and healthcare, retail, tourism and hospitality, telecom, media and entertainment. These sectors highlight the key strengths India and the EU present for each other in terms of labor, talent, cost advantage as well as demand potential in their respective domestic markets. In most of these sectors, Foreign Direct Investment (FDI) is allowed through the automatic route in India, thereby smoothening the road for prospective investors.
Demographic synergies between EU and India

The EU and India draws great synergies from the demographic trends that exist in each of these regions. Greater synergies can be drawn if professionals from India can move to the EU countries. This will fill the labor supply gap, thereby ensuring a steady supply of young professionals to EU member countries. A brief of the recent efforts in this direction has been shown in Table – 6,

Table - 6

<table>
<thead>
<tr>
<th>Promoter Country</th>
<th>Project Details</th>
</tr>
</thead>
</table>
| UK India Education and Research Initiative | The initiative is for – Higher Education and Research, Schools and Professional and Technical Skills development  
UK has pledged USD 34.5 million through contributions by the Department for Innovation and Skills, Foreign and Commonwealth Office, the British Council and devolved authorities of Northern Ireland, Scotland and Wales. Department of Science and Technology (DST), Government of India has also pledged similar funding for science related collaboration  
The first ever India-UK Virtual Graduate Research School (VGRS) has been established to drive collaborative fundamental research programs, research training and technology transfer between the UK and India |
| Indo-German Training Centre (IGTC)    | With an aim to provide training based on practical and theoretical learning, IGTC was established in Mumbai in 1991 followed by the IGTC, Chennai in 2005 and the IGTC, Bangalore in 2008 |
| Indira Gandhi National Open University (IGNOU) | IGNOU plans to open centres in the UK and Germany. It has signed a memorandum of understanding with UK-based Lincoln University.                                                                                                      |
| IIM Ahmedabad(A) and Essec, France     | IIMA and French business School ESSEC have collaborated for a double degree program for a limited number of students. The post-graduate double-degree program would be open to select five students in a year from both the management schools at the same tuition fees |
| IIT Madras                             | IIT – M is a flagship project under Indo-German cooperation for higher education                                                                                                                                 |
| Erasmus Mundus Association of India (EMAI) | EMAI was established with an objective to promote EU as a centre of excellence in the field of higher education in India                                                                                                               |
| Sarva Siksha Abhiyan (SSA)             | EC* signed an agreement with the Government of India (GoI) in November 2001 to support SSA programme, the national initiative for Universalisation of Elementary Education. About USD 284.5 million were committed for 7 years of implementation. |
| Pearson Plc -UK                        | British education and publishing firm Pearson Plc. plans to invest USD 30 million in India to acquire stake in two Indian education companies-USD 17.5 million for a 50 percent interest in New Delhi-based Educomp Solutions Ltd.’s vocational training business and - USD 12.5 million for a 17.2 percent stake in Tutor Vista Global Pvt. Ltd., an online tutoring firm in Bangalore |

7. Emergence and Development of Indian Skilled Manpower in EU

Traditionally, the U.K. has been the main recipient of Indian migrants – both skilled and unskilled until the end of the 1960s. This was mainly due to the colonial ties between the two countries and the advantage of the English language as medium of education in India particularly at the higher, professional and technical levels. Later on, over the 1970s, the U.K. was overtaken first by Canada but eventually by the U.S.A., the latter continuing to be the destination country for the largest number of skilled people from India and many other developing countries during the rest of the twentieth century. An interesting feature of the shift in direction has also been the Indian women’s participation in the American labour market, which normally goes unnoticed. In the 1980 US Census [37], 87.2 per cent of foreign-born Indian female immigrants aged 25-34 years were found having completed high school – the highest amongst all Asian ethnic immigrants in the U.S., excepting for the Japanese women at 92.6 per cent. In terms of female median incomes, however, Indian women occupied an unchallenged top ranking with US$ 13,138 for full-time workers.

In the Twenty Seven members European Union (EU) – the largest economic entity in the world – two-thirds of the entire Indian community resides in the UK. The UK is homeland to Europe’s largest Indian community. The Indian community has risen to become one of the highest earning and best-educated groups in the UK, achieving eminence in business, information technology, the health sector, the media and entertainment industries. It has formed a number of social, cultural and political organisations in the UK, and almost all wealthy PIOs have individual trusts or charities for projects pertaining to health, education or other infrastructure back in their home states and villages in India. During times of national crises, like natural calamities in India, the community organisations raise generous contributions for relief and rehabilitation of the victims. Today the Indian community in the UK occupies a unique position, enriching the British culture, society and politics, and contributing to making the UK a genuinely multicultural society.

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1 Partly, this was also because for some time Britain did not face any competition from the US for import of skilled labour from India. It was after the U.S. Immigration and Nationality Act Amendments of 1965, that gradually, over the 1970s onwards, large numbers of them in various categories of knowledge occupations and skills (doctors, engineers, architects, scientists, teachers, nurses, etc.) were absorbed into the U.S. labour market.
Indians are considered a disciplined and model community with the lowest crime rates amongst all immigrant groups.

As part of the paradigm shift in the twenty-first century, not only the U.K., but also some other developed countries like Germany and France in the EU, Japan closely followed by Australia, and New Zealand too in the Asia-Pacific, have opened up their labour markets to India’s human capital—embodied both in students and the qualified information technology (IT) professionals, and the U.S.A. has increased the intake. The Indian skilled manpower networks have played a significant role in this upswing by way of providing the nexus as an important input in matching the supply-side response to the enhanced demand in the developed countries for the highly skilled Indians.

India has been thus an important player for long amongst the main brain drained countries, supplying skilled professionals and students to the world market of research and higher education respectively – the two variables identified by the collegial expertise as the prime-mover behind the scientific migration networks in the developed countries. Britain is an endless repository of success stories of the Afro-Asian.

2 The National Science Foundation (NSF) provides data on foreign-born professional scientists, engineers, doctors in the US, as well as on the number of foreign-born Ph.D. students in the US universities and those receiving degrees, by nationality, and the number of Indians in both categories is substantial. In 1996, of 1,276 doctoral degree recipient Indian students of science and engineering in the US universities, 85 per cent had plans to stay in the US, and 59 per cent had firm plans to stay on in the US.

3 The example of Lord Swraj Paul, the leading London-based businessman of Indian descent is a case in point. Paul is reported to have exhorted NRI entrepreneurs in the US recently to invest in Britain, saying Europe with 400 million people offered them an enormous market and Britain could be the hub. For Indian companies, he said Britain would be the natural choice. Paul, whom British ambassador to the US Christopher Meyer had described as “the roving ambassador for British business”, said, “We are especially interested in NRI investment because Britain has seen
As explained in previous paragraphs the UK is homeland to Europe’s largest Indian community. Interestingly, the success stories of Indians in Britain had gone to the extent that emigration of expatriate Indian luminaries residing in Britain, to the US was, in the recent past, considered Britain’s brain drain, and subsequently their return to Britain at substantial salary cuts as return of the prodigal sons. One significant example is the migration of economics professor Amartya Sen from Oxford to Harvard and his subsequent return to Cambridge as the Master of the Trinity College. Amartya Sen was later conferred the Nobel Prize in economics after his return to Britain, a case of Britain's brain gain!

Most obviously, Europe had too few qualified computer engineers, which sent wages spiraling in that business, and governments to intervene. Germany attracted much criticism and public strife when it announced a special immigration programme for 30,000 computer engineers from India. Consequently the scale was reduced; by the end of January 2001, fewer than 5,000 signed on. Most went from Eastern Europe, not India. This whole episode of the brain drain drama keeps being referred to repeatedly in the public debates in Europe as well as India.

Indian companies are likely to be responsible for around 20% of the UK IT services market by revenues in 2020. Up to 40% of the UK IT services sector by revenue, and maybe as much as 60% by staff numbers, could be delivered offshore by 2020 [38].

8. Suggested Road Map

Cooperation between India and the European Union has been fostered since the 1960s. The EU-India relations have developed quite favorably in recent years. India's stronger international role and fast economic growth provide a new foundation for cooperation with the EU. The paper finally conclude the study with following points-

the contribution of NRIs to the British economy”. He further added, “I keep reminding people that 18 million Indians abroad have the same GNP as the whole of India and growing faster than India's” (HT, “Swraj Paul calls for US-based Indian investments in UK”, IANS in Washington D.C., The Hindustan Times, New Delhi 15 April).
a) **Education & Academic Exchanges**

Cooperation between institutions of higher education and the exchange of scholars and students play a significant role in enhancing mutual knowledge. It is therefore proposed to build on existing programmes between India and EU Member States and develop new initiatives to accord greater opportunities to students from both sides to study in each other's universities.

b) **Science And Technology**

In both India and the EU, the development of science and technology (S&T) capabilities, to help boost innovation and competitiveness, has taken centre stage in policy making. India and the EU began cooperation in the S&T sectors in the mid-1980s, which has now led to more than a hundred joint research projects. Research collaboration has mainly focused on sustainable development key themes (health, agriculture, natural resources management). The India-EC Science and Technology Cooperation Agreement entered into force on 14 October 2002. It has been a major milestone in bringing together S&T expertise for mutual interest.

In order to build upon well-established policy dialogue and partnership in S&T, India and the EU should propose to Organize joint workshops on research fields of mutual interest among EU's thematic research priorities and should try to Explore between India and EU other scientific and technical collaboration possibilities, such as joint research in the areas of frontier technology/cutting edge technology;

c) **Information and Communication Technologies**

Information and communication technologies (ICT) influence all areas of society, business and government. The development and widespread adoption of new ICT services and networks have powerful effects on economic and social development. India has developed a strong capacity in ICT, capturing a large and growing share of the world market for IT and software services. With its large pool of talented IT specialists and world class facilities for IT research and
development, India is considered an important partner for Europe and vice versa. Many ICT researchers and businesses on both sides are keen to strengthen links with their counterparts.

There should be exchange of views between India and EU on e-commerce; internet governance and universal service regularly.

d) Employment and Social Policy

Employment and social policies are core issues within the EU and the Government of India has put them at the heart of its policy approach. India and the EU are committed to promote full, freely chosen and productive employment with full respect for fundamental principles, fair wages and rights at work.

ACKNOWLEDGEMENT

I am delighted to write the paper on this very important topic which emphasizes the Indo-EU relationship in the field of skill development. I acknowledge the support of the Prof. (Dr.) N.K Agrawal Associate Director Trident Institute of Management, Delhi NCR. The mind blowing sessions with the students of MDI and IMT is unforgettable, which gives me a new insight to understand the INDO – EU, relationship in new dimensions.

At the outset, I want to acknowledge the full support of Mr. A.K. Juneja; the alumni of Faculty of Management Studies (FMS), University of Delhi in arranging my meetings with the people in corporate working in this area for long.

Special thanks to the organizers of the seminar on “Skill Spillover – Future Ahead” in special context to Indo-EU Educational Partnership organised on 13th August, 2011.
DECLARATION

I declare that the present paper titled “India’s Skilled Manpower – a Road Map to Indo-EU Sustainable Growth” has not been neither published nor send for the publication at any other place. The necessary references have been made where ever required to acknowledge the various authors.

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India’s growth: Perspectives for Indo-European Business
“Skilled labour in India: Bridging the gap”

Heike Trost
ESB Business School, Reutlingen University

Abstract

For German enterprises identifying India as a strategic distribution market means building up their own market presence. Without suitable personnel (in terms of personal qualifications and skills), though, company success is a matter of luck. Or to put it in scientific wording: The success of the chosen distribution strategy is positively correlated with the qualification profile of both the personnel of the home country and the target country.

Whereas India’s academia and the Indian Government recognised India’s shortage of skilled labour years ago, we have not been able to find significant studies about how this gap hinders especially German companies to develop India’s potential as a distribution market.

The following paper is based on a survey conducted for ESB Business School and will show how German companies perceive India’s labour market. Besides existing geographical and sectoral gaps we will reveal gaps in the required qualification profile. Thinking merely of hard qualification factors like education levels, skills etc., though, would be short-sighted. Often cited intercultural qualifications also play an important role.

What can be done? What should be done to bridge these gaps? These will be the leading questions of chapter 3. We will discuss some solutions – not forgetting that the problems German companies face are complex and knowing there is no ideal way. However, we will see that some of the most urgent problems can be solved or reduced by Indo-European or Indo-German co-operation models in the field of vocational training and institutions of higher education.
1. Introduction

In recent years internationally active enterprises have had a rather clear mindset with – to keep it short and simple – Asia and Africa for sourcing and the US and Europe for distribution, which nourishes the thesis that a homogenous culture, in terms of language and religion, makes export export activities easier for enterprises.

The geographical playground, though, is changing and is gaining even more dynamic with upcoming PTAs (such as the EU-Korean PTA which was signed in 2010 or the Indo-European FTA which is to be signed within the next year or two).

The long-term strategy for German enterprises concentrating on India as a distribution market usually means to be present in the market with an “own face”. In order to collect a first and fundamental market experience, though, a company will rather choose a penetration strategy which goes along with less capital tie-up.

Independent of the penetration strategy and the penetration intensity, an enterprise has to be aware of its own internationalization competencies. The chosen distribution strategy depends on both the intended internationalization measure and the degree of resources bound in the export market.

Building up internationalization competencies is a sine qua non and basically independent of a distribution policy. As sufficient condition we can define different competency dimensions and in doing so we have to consider the degree of internationalization. In this context we (and exporting companies) have to answer the questions shown in table 1.
Table 1: Competency Dimensions

<table>
<thead>
<tr>
<th>Guiding questions</th>
<th>Aspects to be considered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target country</td>
<td>political/economic/cultural/ legal aspects</td>
</tr>
<tr>
<td></td>
<td>country/religion/location</td>
</tr>
<tr>
<td>Who is the team to set up the distribution</td>
<td>influence, information as well as judicial /fiscal aspects,</td>
</tr>
<tr>
<td>structure?</td>
<td>capital tie-up and risk degree, mode of recruitment and personnel care</td>
</tr>
<tr>
<td></td>
<td>mode of possible partnerships and distribution structures</td>
</tr>
<tr>
<td>How should distribution be structured?</td>
<td>Organization structure of the home country</td>
</tr>
<tr>
<td></td>
<td>vision and mission</td>
</tr>
<tr>
<td></td>
<td>controlling/ corporate management</td>
</tr>
<tr>
<td></td>
<td>business ethics/corporate responsibility</td>
</tr>
<tr>
<td></td>
<td>mode of possible partnerships and distribution and organization structures</td>
</tr>
<tr>
<td>Who supports the distribution structure (internally</td>
<td>language skills/nationality</td>
</tr>
<tr>
<td>and externally)?</td>
<td>mobility</td>
</tr>
<tr>
<td></td>
<td>willingness to learn</td>
</tr>
<tr>
<td></td>
<td>recruitment possibilities/compensation</td>
</tr>
<tr>
<td></td>
<td>personal and professional support in both home and foreign market</td>
</tr>
<tr>
<td>How is the distribution structure supported with</td>
<td>market and market environment</td>
</tr>
<tr>
<td>tangible goods (internally and externally)?</td>
<td>internal and external communication</td>
</tr>
<tr>
<td></td>
<td>offers and price policy</td>
</tr>
<tr>
<td></td>
<td>marketing and distribution channels</td>
</tr>
<tr>
<td>Financial limits of internationalization</td>
<td>currency/exchange rates/inflation/currency convertibility</td>
</tr>
<tr>
<td></td>
<td>taxes and treatment of wins and losses</td>
</tr>
<tr>
<td></td>
<td>corruption/ bribery</td>
</tr>
<tr>
<td></td>
<td>promotion of investment by the home and foreign country</td>
</tr>
<tr>
<td></td>
<td>funding/cash flow</td>
</tr>
</tbody>
</table>

Source: compiled by the author.

German enterprises have to find answers to these (and other) questions in a changing world in order to be successful in religious and cultural surroundings that differ from their home and their “old” export markets. And it might not be sufficient to reduce one’s export strategy to the often cited intercultural aspects. We assume that there is a positive correlation between the factors “realm of culture “ and “face/represent ative of the company“ with regard to the export structure in the foreign country. Table 1 underlines that a successful export strategy depends on the individual answers a company finds when dealing with its competency dimensions. There is no ideal way to follow – it would, indeed, be too simple. The result is a matrix which combines the strengths and weaknesses of a company with the cultural dimensions of every target market. In the end a company might have to rethink the export strategy for each realm of culture individually. Table 1 provides us with a second hint: It might be decisive for a German company
to solve all related questions for its home organization, too. If the German enterprise does not find the suitable staff to support its targets in terms of

- personalities who match the German company philosophy/business ethics etc.
- skills and knowledge
- and financial compensation questions

a German enterprise might not be successful in gaining ground in the foreign market. Following the question “Skilled labour in India: Bridging the gap” we will examine which gaps German enterprises identify when working actively with India as an export market. A further step will be to discuss possibilities of how these gaps could be closed or at least diminished.

2. Personnel requirements of German enterprises

2.1 Qualifications, skills and flexibility

Following a KPMG study², German SMEs identify some bottleneck factors in their home market: availability of highly qualified labour, lower non-wage labour costs, a flexible labour law and flexible working hours and – by far – an efficient placing service and mobility of labour force.

Personnel requirements gain even more relevance as German enterprises are known as innovation drivers. KPMG found out that German enterprises invest more in research and development (R&D) than the European average. Moreover, German companies choose the way of R&D co-operations above average whereas other European companies prefer mergers and acquisitions for gaining access to innovations.³

As long as the market is used for sourcing we can assume that the availability of sourcing material is the restrictive factor. When looking at the foreign market from the distribution side, however, we assume that the factor availability of highly qualified, mobile and time- flexible labour supply will gain importance. If we look at the Indian market in order to assess its attractiveness for German companies, we have to examine whether the Indian labour market fulfills the requirements and needs.
2.2 Labour Market and sectoral compensation structure in India

R. Nagaraj (2007)\(^4\) points out that the service sector remains India’s dominant sector. Besides the fact that productivity rose in Industry 1980-2000 the share of the manufacturing employment did not increase significantly. Moreover, the increase in wages was perceptually lower in the Industry sector than in other sectors, to name the public sector as example.

This means for export-oriented German companies

1. A skilled labour force in the Industry sector is rather scarce.
2. Per-capita-productivity in the Industry sector has risen perceptibly.
3. The real wage level in the Industry sector is coming increasingly under pressure.

Let us have a closer look at India’s macro-economic data and then discuss how India’s current macro-economic situation supports our findings before we examine what it means for the availability and quality of the Indian workforce.

First, differences between India and Germany are revealed very quickly. We will have to decide whether these differences mean chances or risks for the economic development of the country.

Table 2: Relevant macro-economic data for Germany and India

<table>
<thead>
<tr>
<th>Economic power</th>
<th>Germany</th>
<th>India</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic power</td>
<td>Fourth largest economy in the world with a GNI of 3.49 bn US-$</td>
<td>Tenth largest economy in the world with a GNI of 1.37 bn US-$</td>
</tr>
<tr>
<td></td>
<td>World’s second largest export nation</td>
<td>second most populous country in the world</td>
</tr>
<tr>
<td>Per capita income</td>
<td>42,560 US-$</td>
<td>3,339 US-$</td>
</tr>
<tr>
<td>Economic structure</td>
<td>Highly-specialized and export-oriented SMEs being the job motor in</td>
<td>Highly-specialized service sector has been the job motor for many</td>
</tr>
<tr>
<td></td>
<td>Germany (employs about 70% of working population) with declining</td>
<td>years (with software solution exports to more than 90 countries and</td>
</tr>
<tr>
<td></td>
<td>growth rates in the “traditional” markets</td>
<td>a GDP contribution of 55%) with declining ongoing growth in the</td>
</tr>
<tr>
<td>R&amp;D and qualification</td>
<td>Germany spends 2.6% of its GDP on R&amp;D and has registered 11% of</td>
<td>Beitrag zum GDP (2009): 55%</td>
</tr>
<tr>
<td>profiles</td>
<td>worldwide patents</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Percentage of graduates &gt; 20% Literacy rate 99% and more</td>
<td>Percentage of graduates &lt; 5% Literacy rate 74% (growth of 9.2% in a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>decade)</td>
</tr>
</tbody>
</table>


The figures in table 2 indicate that due to the highly different per-capita income there is a comparative cost advantage for German enterprises going to India. And these labour cost aspects
could even underline India’s significance as a distribution country for German enterprises. This thesis is also supported by the figures in tables 3a to 5.

### Table 3a  Earnings and labour costs/ Gross hourly earnings of production workers in manufacturing 2007

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Europe/Canada</td>
<td>36.07</td>
<td>EUR 22.00</td>
<td>America/USA</td>
<td>4.03</td>
</tr>
<tr>
<td>Germany</td>
<td>24.07</td>
<td>EUR 12.14</td>
<td>Brazil/Brazil</td>
<td>22.13</td>
</tr>
<tr>
<td>Denmark</td>
<td>37.06</td>
<td>DKK 20.70</td>
<td>Mexico</td>
<td>2.15</td>
</tr>
<tr>
<td>Finland</td>
<td>26.78</td>
<td>EUR 15.53</td>
<td>USA</td>
<td>10.17</td>
</tr>
<tr>
<td>France</td>
<td>19.05</td>
<td>EUR 11.18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>13.26</td>
<td>EUR 8.45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>India</td>
<td>24.04</td>
<td>EUR 13.14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Italy</td>
<td>19.67</td>
<td>EUR 14.10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Luxemburg</td>
<td>24.60</td>
<td>EUR 15.22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Netherlands</td>
<td>26.40</td>
<td>EUR 15.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Norway</td>
<td>39.62</td>
<td>kr 232.40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Africa</td>
<td>28.72</td>
<td>EUR 16.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sweden</td>
<td>5.11</td>
<td>SEK 14.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switzerland</td>
<td>6.01</td>
<td>CHF 6.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switzerland</td>
<td>24.11</td>
<td>CHF 162.90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switzerland</td>
<td>27.48</td>
<td>SEK 32.94</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spain</td>
<td>15.84</td>
<td>EUR 12.34</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switzerland</td>
<td>8.01</td>
<td>CHF 125.69</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turkey/Spain</td>
<td>3.77</td>
<td>€ 1.056.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>23.44</td>
<td>£ 11.69</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


If we define the US-American wages per hour as 100 we find the following picture for the labour cost index in the year 2007 which is illustrated in table 3b.

There is one additional interesting fact on the earnings in the Industry sector. Whereas the per-capita earnings in Germany are perceptionally above average we will find a different picture for India with per-capita earnings that are far below. We have to examine whether this finding encourages or hinders German companies to find and attract well-skilled personnel.
Table 3b: Wages per hour – an international comparison (2007)

Mean total hourly compensation cost of manufacturing employees, selected countries and regions, 2007

(Index, United States = 100)

<table>
<thead>
<tr>
<th>Country</th>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>100</td>
</tr>
<tr>
<td>Brazil</td>
<td>95.5</td>
</tr>
<tr>
<td>Mexico</td>
<td>66.6</td>
</tr>
<tr>
<td>Euro Area (1)</td>
<td>107.6</td>
</tr>
<tr>
<td>Eastern Europe (2)</td>
<td>92.7</td>
</tr>
<tr>
<td>Japan</td>
<td>80.5</td>
</tr>
<tr>
<td>East Asia excluding Japan (3)</td>
<td>78.4</td>
</tr>
<tr>
<td>Philippines</td>
<td>63.4</td>
</tr>
<tr>
<td>Sri Lanka (4)</td>
<td>59.7</td>
</tr>
</tbody>
</table>


Table 3c: Hourly compensation costs in India’s organized manufacturing sector (1999-2007)

Hourly compensation costs in India’s organized manufacturing sector, 1999-2007

<table>
<thead>
<tr>
<th>Year</th>
<th>Mean hourly earnings in rupees (hourly pay for time worked)</th>
<th>Hourly compensation in rupees</th>
<th>Hourly compensation in U.S. dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All employees</td>
<td>Production workers</td>
<td>All employees</td>
</tr>
<tr>
<td>1999</td>
<td>20.68</td>
<td>15.97</td>
<td>28.43</td>
</tr>
<tr>
<td>2000</td>
<td>22.54</td>
<td>16.87</td>
<td>31.66</td>
</tr>
<tr>
<td>2001</td>
<td>23.77</td>
<td>17.57</td>
<td>33.65</td>
</tr>
<tr>
<td>2002</td>
<td>24.95</td>
<td>18.22</td>
<td>35.36</td>
</tr>
<tr>
<td>2003</td>
<td>26.58</td>
<td>18.98</td>
<td>37.68</td>
</tr>
<tr>
<td>2004</td>
<td>27.57</td>
<td>19.46</td>
<td>39.55</td>
</tr>
<tr>
<td>2005</td>
<td>29.10</td>
<td>20.06</td>
<td>40.02</td>
</tr>
<tr>
<td>2006</td>
<td>31.37</td>
<td>21.18</td>
<td>43.07</td>
</tr>
<tr>
<td>2007</td>
<td>35.46</td>
<td>23.25</td>
<td>48.36</td>
</tr>
</tbody>
</table>


Table 4a: Average hourly labour costs in industry and services in Germany and Europe (2007)
Table 4b: Breakdown of labour costs in Germany and Europe (2007)


If we compare Germany’s and India’s economic structures we have to fear that the given differences in these economies hinder the distribution strategies of German companies as they do not find a proper qualification structure being supplied by the Indian labour market. This is an aspect we should pay some attention to.

In order to become a distribution market in the highly innovative Industry sector the existence of comparative labour cost advantages per se is not sufficient. The sine qua non is the existence of well-skilled personnel suitably qualified for the right sector. The market, however, will only provide this labour force if the attractiveness of work in this sector is considerably higher. The attractiveness of a sector, however, is – amongst others – dependent on:

- the established and actual economic structure
- the structure of and access to education and vocational trainings
and last but not least the job prospects and employment possibilities that are positively correlated with
- the achievable compensation (salary/wage)
- the reputation one can gain with doing the job
- future perspectives
to keep it short and simple...
... attractiveness of the occupation

The labour market report, provided by the Indian Ministry of Labour in 2009, reveals three classes of issues: India’s labour market struggles with regard to geographical, sectoral and educational discrepancies both with regard to vocational training and India’s academia. The German Institution for Trade and Invest (2007) points out that only 25% of engineers trained in India are directly qualified for starting work in a German enterprise.5

Experts who have been educated internationally are scarce. And following the market rules they are perceptibly expensive. In the years 2007/08 the middle management could have a monthly income of between 35,000 INR and 125,000 INR. The Indian top management of a global player, though, could earn up to 8 m INR (2005), whereas the earnings of SMEs’ top managers were relatively modest (appr. 250,000 INR).6 Another obstacle to the setting up of a distribution structure emerges: We find a lot of highly innovative German SMEs that consider penetrating the Indian market with an own presence but cannot pay highest compensations to their Indian management and workers vis-à-vis the big players from Germany, Europe, the US or Japan. This might be a comparative disadvantage for German SMEs, too.

And SMEs face another problem. A problem widely spread amongst the so-called “hidden champions”: There are numerous examples of German SMEs being innovative and market leaders in their niche segment, often not known “outside”. Being innovation leaders requires highly and specifically skilled technical personnel which is difficult to find in India as we have seen earlier. Moreover, Indian experts often feel attracted to the “big names“. Beside higher earnings, prestige also plays an important role. This was shown by an interview of ESB Business School, Reutlingen University with 23 Indian MBA graduates in 2010. We will take up this aspect later again.
2.3 Labour market and professional qualifications

For building up a distribution structure in a foreign country the availability of suitable personnel is a sine qua non. The high degree of technology German SMEs usually apply requires the recruitment of skilled and well-trained technical personnel both in the home and in the foreign market. The need for communication with the German parent company for both the administrative and the managerial staff makes the following inevitable:

- internationalization of company ethics and principles
- language skills
- knowledge of communication structures and conventions
- knowledge of taxation law (in India and Germany)
- knowledge of international accounting and book-keeping standards
- etc.

Accordingly, for the German “face” in a foreign market it is inevitable to know the rules and conventions of the target market. There might be consultants and agencies offering foreign trade services so that these competencies can be outsourced to a certain extent and for a certain time to bridge the gap.

Besides the cost factor outsourcing of competencies is also linked with a loss in relevant market information and controlling, so that a German company should think very carefully at this point. To be burdened with long-term costs in this field might be crucial, especially for SMEs. Moreover, the highly innovative SMEs need both knowledge about the market and the technical expertise, which they can only build up with own experts. Thus, the recruitment possibility of personnel in the target market is the restrictive factor.

What qualifications do German or European companies need besides technical expertise? An Austrian survey of 1,200 enterprises which we deem to be representative of other European companies – including the German companies – also shows that European companies expect some basic competencies and ethics when it comes to the acquisition of personnel. Just to mention a few…

- willingness to learn
- problem solving competency and decision making skills
- focused on achievements, goals and targets
- communication strengths and face-to-face communication
familiarity with business conventions

We have pointed out that there are geographical and sectoral gaps to be bridged (see: Labour Market report, provided by the Indian Ministry of Labour in 2009). Now we have to examine whether German companies find the needed professional qualification profile which makes Indian personnel employable for German companies with special focus on SMEs. Do German SMEs find the necessary qualifications? To a sufficient extent? And finally: Who provides the labour market with the qualified personnel? And do German SMEs have appropriate access to the market?

Comparing the educational levels in Germany and India we gain another important indicator.\(^8\) Whereas the indicator “school expectancy”\(^9\), which is 17.2/17.6 years (2000/2007), is comparable to the European average with 16.7/17.2 years, the Indian value in both years is much lower and reaches only 48.8% and 56.8% of the German figures, respectively. Even compared to the world we find the Indian figures slightly below average. Tertiary enrollment in India\(^10\) was 10% in 2000 and 13% in 2007 whereas Germany’s tertiary enrollment rate is around 46% according to UNESCO data files.

Table 2 showed India’s relatively low percentage of graduates compared to Germany – also internationally not too well placed in this field – and we know the shortage of Indian experts whose trainings followed international standards and consequently can be employed without additional time and effort for training– which makes them relatively expensive if we follow the market rules. These findings support our assumption that German companies have to bridge a qualification gap in India.

A 2011 survey made for a German SME which is to some degree representative reveals even more: Whereas the importance of intercultural trainings was comparably high in both companies with 33% (extremely important) and 63% (important) of the Germans and 12% (extremely important) and 67% (important) of their Indian colleagues there were only 37% of the Indian respondents who underwent an intercultural training and 78% of the Germans!
How can German companies bridge these professional and intercultural gaps in a timely manner? Two solutions come very quickly to our minds: They can:

- either provide own trainings both in the field of vocational training and management trainings – which is very costly, but allows to provide the personnel with tailor-made knowledge or
- co-operate with suitable providers of education services - either in Germany (which again is very costly) or in India (where they might face the problem of not knowing how to assess the quality of the providers of education services)

We will come back to this later.

2.4 **Labour market and intercultural competencies – An Indo-German comparison**

According to Geert Hofstede\(^\text{11}\), still one of the leading experts in the field of intercultural competencies, we find that Germany and India show a significantly different performance when we compare the intercultural dimensions.
Especially the aspects “Power Distance“, “Uncertainty Avoidance“ and “Long Term Orientation (LTO)“ differ significantly. G. Hofstede describes “Power Distance“ as “the extent to which less powerful member of organizations or institutions accept and expect that power is distributed unequally.” “Uncertainty Avoidance” means “a society’s tolerance for uncertainty and ambiguitly. It indicates to what extent a society feels comfortable or uncomfortable in unstructured situations.” Finally “Long Term Orientation” can be said to deal with Virtue regardless of Truth. Values associated with Long Term Orientation are thrift and perseverance; values associated with Short Term Orientation are respect for tradition, fulfilling social obligations, and protecting one's 'face'. “12
Indeed, these cultural differences can be found in different communication ways, which can be proved by the comparison between the communication structures in the surveyed German SME and its Indian subsidiary (see figure 3).

**Figure 3: Communication structures in Germany and India**

![Figure 3: Communication structures in Germany and India](image)

Source: Mishra, A. Cultural Differences in Germany and India. Presentation held on 19.7.2011 at ESB Business School, Reutlingen University, Germany.

Not surprisingly, these differences in communication methods are perceived as main obstacles in communication. But – and this is really remarkable – only from the German parent company’s side. Whereas far more than 50% of the German respondents agree that cultural differences are an obstacle in intercultural communication, more than 60% of their Indian colleagues do not agree.

**Figure 4: Communication method and intercultural differences**

![Figure 4: Communication method and intercultural differences](image)

Source: Mishra, A. Cultural Differences in Germany and India. Presentation held on 19.7.2011 at ESB Business School, Reutlingen University, Germany.

The findings reveal basic differences and we should analyze them: Looking at the German company we could find out that

- 33% of the respondents felt that the Indian colleagues lack the understanding of proper time lines and exhibit less decision making skills.
- 22% felt that they have a very hierarchic thinking and lack strategic thinking.

However, almost 25% of the Indian respondents felt that their German counterparts are inflexible and rigid, authoritative in nature and do not open up easily. Interestingly only 25% of the Indian respondents believe that cultural differences lead to obstructions in performance.

We take it as a proof that different communication methods (open versus saving one’s face) and a different understanding of hierarchy may be the triggering factors (see figure 4).

**Figure 5: Key drivers of organizational culture**

Source: Mishra, A. Cultural Differences in Germany and India. Presentation held on 19.7.2011 at ESB Business School, Reutlingen University, Germany.
3. **How to Bridge the Gap**

We could show the need for solutions in different areas. Ignoring the existing problems would put additional pressure especially on German SMEs that want to enter the Indian distribution market. On the other hand it would mean for the Indian market to lose development growth potential which would end up in comparative cost disadvantages for a market which has to develop rapidly for different inherent reasons (just to name the fast growing population).

We could identify different gaps which have to be bridged from India’s labour market side. India cannot provide the market with

- the required **quantity** of skilled workers and academics
- the required **professional qualification structure**
- enough personnel accustomed to international requirements and **intercultural sensitivity**.

Moreover we find **geographical and sectoral gaps**— although they are not at the center of consideration that have to be bridged.

Last but not least there is a **prestige and perception problem** German SMEs have to face and bridge when they want to compete successfully with the big names for scarce people that have been trained according to international standards and are thus directly employable.

3.1 **Provision of the right quantity of qualified personnel**

Existing education structures cannot be changed considerably in the short run. Moreover, because of the high growth rate of India’s population more and more young people seek access to existing educational institutions. In the long run investments in educational infrastructure might be an efficient means. The Indian government is aware of these challenges. In 2010 Kapil Sibal, Minister of Human Resources Development, talked of a required total investment of $400 billion in the education sector over the next decade and the Indian government is doing a lot (see table 5).\(^{13}\)
Table 5: Budgeted expenditure (revenue account) on education 2005-2006

<table>
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<th></th>
<th></th>
<th></th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>(Rs. In Crore)</td>
<td>(In Crore)</td>
<td>(In Rs.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>States/UTs Total</td>
<td></td>
<td>449952.96</td>
<td>9018.94</td>
<td>107.90</td>
<td>834.28</td>
<td>20.01</td>
</tr>
<tr>
<td>Central</td>
<td></td>
<td>439761.00</td>
<td>23209.77</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INDIA(G. TOTAL)</td>
<td></td>
<td>889713.96</td>
<td>113228.71</td>
<td>107.90</td>
<td>1049.39</td>
<td>12.73</td>
</tr>
</tbody>
</table>


There is an international awareness and responsibility facing these educational challenges, too. In 2008 the European Union, e.g., earmarked a €33 million budget for India that allowed the Erasmus Mundus programme to provide new opportunities, thus enabling more than one thousand Indian graduates to study in Europe between 2004 and 2007. The Erasmus Mundus II programme has extended cooperation even further.

Aware of the various problems India is facing the European Union has allocated €470 million between 2008 and 2013 to reinforce the work done by the Indian authorities to reduce poverty and achieve the Millennium Development Goals. With a budget of €180 million allocated by 2010, basic health and education have a key priority. National education programmes like the German “A New Passage to India” have provided a further annual budget of € 4.3 Mio since 2007.

Nevertheless, latest research work shows a necessity for solutions that are effective in the short run. We know, however, how difficult it is to bridge both the time and the quantity requirements in the educational system. We also know of course that this is a major challenge which normally calls for a high assignment of money and resources. Taking this into consideration we do not see any further scope of development. And even if there were any room for further funds, we could not solve the related time-lag problem.

3.2 Provision of the right qualification structure

Following the opportunity cost model we assume that there will be a change in the qualification structure of skilled personnel as soon as there is a positive return on investment for the people.
As variables of the model we can define the personnel which has to be educated/qualified/trained and the companies on the demand-side and finally providers of education services on the supply-side.

3.2.1 The “demand-side”: personnel and companies

Taking into consideration what we found in section 2.2 we know: The decision for a certain qualification structure follows the attractiveness of the occupation. The attractiveness, however, is positively correlated with factors like income, prestige and future perspectives. Whereas the factor future perspectives seems to be uncritical we learn from section 2.2 that the hourly compensation in India’s Production Sector is considerably lower than in the Service sector. To bridge the gap a certain levelling of average incomes in different sectors seems to be inevitable for the Producing sector in order to compete successfully against the other sectors. This means a necessary increase in hourly compensation in the Production sector – a problem for all German SMEs that decide for India because of comparative cost advantages and a problem for India which is one chainlink in the global competition of sites. Following this argument we believe that an increase in hourly compensations has to go along with an increase in labour productivity if India does not want to lose its attractiveness for German and/or European enterprises.

We define an increase in productivity as an increase in output with constant factor costs whereupon the output can be increased quantitatively or qualitatively. At this point we come back to what we stated in chapter 1: The more importance India gains as a distribution market and the more the Indian market is “mature” for highly sophisticated technical solutions offered by German enterprises the more central a qualitative increase in productivity will be.

On the other hand we know: Only 25% of Indian engineers are directly employable for international companies.\(^\text{16}\) We can assume that the employability quota of skilled workers is considerably lower. How can we bridge this gap?

In section 3.1 we pointed out that we do not expect changes of the qualification structure in the short run – neither concerning vocational education nor for academics. Moreover, we have to remember prestige problems the Industry Sector has to face in general and German SMEs in particular. This leads us to the assumption that the market mechanism does not provide any solution in the short run and limits the possibilities of German enterprises. German SMEs can

- **work with the existing qualification level,**
  what we feel is suboptimal because this limits companies to a certain productivity
level and hinders India to become a distribution market for highly innovative German or European companies;

- **offer own education and vocational training,** what we see as an option if the degree of internalization and the company size AND the market potential are considerably high. There are positive examples (Würth or Festo can be named – among others), but these success stories are selective, need a long time and capital tie-up and are quantitatively not suitable to provide the overall qualification demand.

- And last but not least we can identify **educational institutions** on both the vocational and the academic level that know the demand German enterprises have and can respond to the demands as problem solvers. There are private as well as public providers of education services both in India and from other countries at vocational and academic level.

Let us keep our attention focused on what we have just discussed as we think it is central to how to bridge the gap.

There are numerous possibilities of how co-operation between enterprises and educational institutions can be customized with effects on the:

- capital needs
- possibility to influence/tailor-make educational and vocational contents and durations and
- overall quality aspects of education/vocational trainings

for both education/work seeking people and enterprises.

These findings lead us to suggest an action plan that can come quickly and easily into practice. There is still room for co-operations in the field of education and training: We interviewed several German SMEs who intend to or have entered the Indian market. We found out that German SMEs are usually not informed about German or Indian educational institutions providing the range of activities geared towards supporting industry in the Indo-European or Indo-German context. On the one hand we assume that companies face a certain lack of awareness, on the other hand we feel that educational institutions face a lack of visibility. We favor building up a central database where educational/training institutions can present their range of services. A quick internet reference and visibility are crucial factors. Therefore the database should be located where companies intuitively search for
information (embassies, chambers of commerce). A practical solution should take at least the following aspects into consideration:

- in order to support companies from the very beginning the database should be non-commercial (being part of a governmental export promotion programme)
- the data management should be done professionally and on a regular basis
- and – very important – a supervising agency should be implemented which provides consistent standards and evaluation methods valid for both countries to certify that education/training institutions know the
  o needs of personnel seeking enterprises
  o personal and skill-wise potential of the potential workforce, and finally
  o international education and training standards.

We could also think of promotions in the field of R&D co-operations – either by pooling enterprises or between enterprises and education/training providers. However, the more tailor-made learning opportunities are configured the more intellectual property rights come into play.

3.2.2 The “supply side“: providers of (higher) education and vocational trainings

The supply side faces similar problems as identified in section 3.2.1. Accordingly we can work with similar solutions which have the side-effect that both market sides can benefit from one package of measures. Taking the aspect “financial viability“ into consideration this might be crucial.

Let us analyze briefly the current situation for providers of (higher) education and vocational trainings in Germany and India:
Table 6: Current situation of German and Indian vocational training centres and institutions of (higher) education

<table>
<thead>
<tr>
<th>Classes of issues</th>
<th>German providers</th>
<th>Indian providers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge of educational needs of German companies</td>
<td>Present</td>
<td>Partly present</td>
</tr>
<tr>
<td>Knowledge of educational needs of Indian companies</td>
<td>Partly present</td>
<td>Present</td>
</tr>
<tr>
<td>Attraction of teachers and professors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• in the home market</td>
<td>Possible</td>
<td>Difficult because of an overall lack of qualified teachers and professors</td>
</tr>
<tr>
<td>• in the guest market (India resp. Germany)</td>
<td>Difficult because of an overall lack of qualified teachers and professors</td>
<td>Partly difficult because of skill and language deficits</td>
</tr>
<tr>
<td>Attraction of apprentices and students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• on the quantity side</td>
<td>Knowledge of education market inevitable</td>
<td>Good For highly ranked and reputable institutions possible</td>
</tr>
<tr>
<td>• on the quality side</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visibility</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• in the home market</td>
<td>Very good</td>
<td>Good</td>
</tr>
<tr>
<td>• in the guest market (India resp. Germany)</td>
<td>Limited</td>
<td>Limited</td>
</tr>
<tr>
<td>Cross approval of educational achievements</td>
<td>Very limited according to existing Indian Law</td>
<td>Limited according to existing German Law</td>
</tr>
</tbody>
</table>

Source: compiled by the author.

What are our conclusions? What our recommendations? We quickly perceive that the ideas we presented under section 3.2.1 are quite promising. Indo-German co-operations in all fields of education could resolve most of the current weaknesses if some aspects are considered: The cooperation model should work pari passu in order to use comparative advantages out of both educational systems. However, we recommend that joint educational efforts should be both accredited by an independent and reputable institution and state-approved – a recommendation that goes along with changes concerning matters of educational policy in both countries. And finally we can define visibility as a success factor: Only if the companies have access to the relevant information can they make use of the educational offers.

There is an aspect that is not directly linked with the measures above but is nevertheless important: The attraction of teaching staff and their training might be a further factor. We all know the efforts which have been made on national levels as well as supported by the EU. There are further education training programmes for teachers and international exchanges of professors, which are indeed important. But from our point of view it is questionable whether the supply meets the demand quantitatively. We are convinced that the world wide web with its multimedial technical solutions plays a major role in this context. Web based train-the-trainer- and teach-the-teacher-seminars, ideally combined with some physical presence in the target country, might bridge the gap qualitatively, quantitatively and with a view to cost efficiency and
time aspects. Some pioneers among educational institutions are aware of this market segment and have started their contribution. And of course we have to keep in mind: Virtual educational institutions have to follow the same quality standards and need the same visibility as “physical” institutions.

3.3 Development of personal qualification

It is challenging to develop personal qualifications quantitatively within a short time period. Earlier we stated a tradeoff between time and quantity with regard to changes of existing educational structures. Consequently enterprises seemingly are obliged to handle this education spectrum. The thesis is nourished by the fact that a lot of interpersonal and intercultural factors have – beside language issues – direct consequences for the company’s culture and ethics. However, development, implementation and execution of individual trainings are costly and bind resources what might exceed especially the means of SMEs. Taking this into consideration we opt for co-operation models again. The co-operation between Reutlingen University, Germany, and SPJIMR Mumbai which led to the foundation of the Centre of European Business Studies (CEBS) in 2009 might show how co-operation can work:

The Centre engages in a range of activities geared towards supporting industry, academia and scholars with a joint study programme with special concern to Europe-related and intercultural issues. The scholars leave with a post graduate certificate from SPJIMR and an MBA from Reutlingen University. The Master’s thesis is commonly pursued with and for a company or business association the students contact within the 4 months the students time spent in Germany. This gives the companies the freedom and time to both “test” aspiring candidates, and to transmit the companies’ ethics and values. On the other hand the scholars learn the German language in parallel. Finally, they are well equipped to excel in both worlds and support companies to succeed and grow in Indo-European Business in both Europe and especially Germany and India which makes them interesting candidates for the labour market.

This might be only one example that illustrates how all parties benefit. There might be others. In the end it seems to be crucial to visualize best practice examples on an internet platform where companies find easy and intuitive access. This could support companies to find suitable and affordable options.
4. Conclusion

The company’s success in a foreign market is positively correlated with the qualification profile of the personnel that can be acquired in the target country. However, companies often face not only qualification gaps but also have limited access to decisive information about qualification structures on the demand and on the supply side. Moreover, foreign companies often face prestige problems which is an additional obstacle for acquisition of suitable personnel. On the other hand there is a global competition between countries to attract foreign direct investments. The pressure to be attractive as a distribution market and not only as a sourcing market is persistently increasing.

We have pointed out various and genuine qualification gaps German companies have to face in India. We have talked about the increasing pressure for the Indian government and the necessity to find national solutions as well as international support. Last but not least we have pointed out how some of the problems might be allayed with relatively modest financial means. The factual height of the needed investment, however, should be analyzed separately.
## Tables and figures

### Tables

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 1</td>
<td>Competency Dimensions</td>
<td>62</td>
</tr>
<tr>
<td>Table 2</td>
<td>Relevant macro-economic Data for Germany and India</td>
<td>64</td>
</tr>
<tr>
<td>Table 3a</td>
<td>Earnings and labour costs/ Gross hourly earnings of production workers in manufacturing 2007</td>
<td>65</td>
</tr>
<tr>
<td>Table 3b</td>
<td>Wages per hour – an international comparison (2007)</td>
<td>66</td>
</tr>
<tr>
<td>Table 3c</td>
<td>Hourly compensation costs in India’s organized manufacturing sector (1999-2007)</td>
<td>66</td>
</tr>
<tr>
<td>Table 4a</td>
<td>Average hourly labour costs in industry and service in Germany and Europe (2007)</td>
<td>66</td>
</tr>
<tr>
<td>Table 4b</td>
<td>Breakdown of labour costs in Germany and Europe (2007)</td>
<td>67</td>
</tr>
<tr>
<td>Table 5</td>
<td>Budgeted expenditure (revenue account) on education 2005-2006</td>
<td>76</td>
</tr>
<tr>
<td>Table 6</td>
<td>Current situation of German and Indian vocational training centres and institutions of (higher) education</td>
<td>80</td>
</tr>
</tbody>
</table>

### Figures

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1</td>
<td>Intercultural Training in Germany and India</td>
<td>71</td>
</tr>
<tr>
<td>Figure 2a</td>
<td>Germany’s measure of cultural dimension</td>
<td>72</td>
</tr>
<tr>
<td>Figure 2b</td>
<td>India’s measure of cultural dimension</td>
<td>72</td>
</tr>
<tr>
<td>Figure 3</td>
<td>Communication structures in Germany und India</td>
<td>73</td>
</tr>
<tr>
<td>Figure 4</td>
<td>Communication method and intercultural differences</td>
<td>73</td>
</tr>
<tr>
<td>Figure 5</td>
<td>Key drivers of organizational culture</td>
<td>74</td>
</tr>
</tbody>
</table>
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Notes


9 The statistical yearbook of the EU defines the school expectancy indicator as follows: The indicator of school expectancy corresponds to how many years, on average, a 5-year old child can expect to study at school.

10 According to the UNESCO definition the indicator sums up all tertiary level students that are enrolled at the start of the school year and expresses the percentage of the mid-year population in the 5 year age group after the official secondary school leaving age.


15 For more information please visit http://newdelhi.daad.de/mainFrame/news/Mehrfart%207.html#2, last visited 20.9.2011.

Abstract

This study analyses the opportunities, prospects and constraints for EU businesses in Indian logistics sector against the backdrop of India’s high economic growth. Based on secondary information and a primary survey, the study examines factors determining EU investment and collaborations in India, barriers to investment and the way forward.

The study found that there is a need for significant investment in the Indian logistics sector and a substantial part of it can come from the EU. A number of EU companies in India are multinationals and have entered into various logistics segments through mergers and acquisitions and other modes of entry. They are committed to the Indian market and foresee a double digit growth. The Indian and EU companies have complementarities and there are a number of areas where they can further collaborate to benefit from each other’s expertise. However, there are barriers such as fragmented segments and inter-modal infrastructural constraints which can be addressed through domestic reforms and the ongoing India-EU Bilateral Trade and Investment Agreement (BTIA). If addressed, it would not only create more opportunities for India-EU business collaborations and EU investment, but also enhance economic activity, efficiency and global competitiveness of Indian logistics sector.

JEL Classification: F13, F14, F53, L90, N75, O18, R4
Keywords: Logistics, Transportation, India, EU, Trade, Liberalization
1. Introduction

Logistics can be defined as “efficient movement and storage of goods and resources (from raw materials to finished goods and services) between the ‘point of origin’ and the ‘point of end use’. It is a key parameter of an economy’s strength and permeates into every segment of business operations. The positive relationship between logistics infrastructure and economic growth has been well researched and established (Yang, 2010; Yang and Zheng, 2011). On one hand, economic growth generates demand for logistics infrastructure, and on the other, logistics development helps to boost industrial activity (Yu, 2007), competitiveness (Navickas et al., 2011), trade and overall economic growth (Liu, 2009; Yuan and Kuang, 2010; Na, 2010) via a multiplier process.

Logistics is also sometimes seen as an overall measure of the degree of development or modernization of an economy. A good example of this is the case of the European Union (EU) and India. While the former, as a bloc can be considered a high-income developed economy with a well-organized and evolved logistics sector, the latter is counted among the lower-middle-income (but fast emerging) economies of the world,\(^1\) where the logistics sector is still evolving.

This study focuses on the opportunities and constraints for EU businesses in the Indian logistics sector. Further, it identifies key prospects and barriers in enhancing logistics trade and collaboration between EU and India and suggests the way forward. This will be analyzed in the backdrop of the changing nature of the Indian economy - its rapidly growing gross domestic product (GDP)/per capita income levels and emergence as a strong economic power.

Although there are a number of studies on the Indian logistics sector (see KPMG-CII, 2009; CII-KPMG, 2007; Planning Commission, 2009), they do not focus on the opportunities and constraints for European businesses in the Indian logistics sector. This is crucial to investigate since logistics is not only a key component of India-EU’s trade it is

\(^1\) The World Bank, classifies countries by income group according to 2010 GNI per capita. Out of the 27 countries of the EU, 23 are listed under the category of ‘High income economies’ ($12,276 or more) and the rest four with the ‘Upper middle income economies’ ($3,976 - $12,275). India is listed as a ‘Lower middle income’ economy ($1006-$3975). (See http://data.worldbank.org/about/country-classifications/country-and-lending-groups)
needed to facilitate and enhance trade between the two economies. In India, logistics is one of the fastest growing sectors contributing to around 6.2 percent of the GDP and a turnover of around €60 billion). In EU, the total turnover of logistics sector is around €800 billion and its long-term growth rate is estimated at 4-8 percent. The EU market is developed and saturated. The Indian logistics sector is still underdeveloped but growing at a double digit rate. Europe is going through one of the worst financial crises recently and EU companies need to spread their business risk. The case for investing in India - one of the world’s fastest growing economies, thus becomes all the more important. India and EU are negotiating a comprehensive Bilateral Trade and Investment Agreement (BTIA) to liberalize their markets for each other, of which logistics is a key component. In addition, India and the EU have recently signed a Horizontal Air Services Agreement and are negotiating a Maritime Agreement to deepen collaboration. All of these are likely to increase Indo-EU collaboration in logistics and create opportunities for businesses.

The study is based on an analysis of the existing secondary data and a primary survey of the Indian and EU businesses (in India), industry bodies, European embassies and policy makers. It aims at understanding the pattern of bilateral trade - EU logistics investments/tie-ups with local companies in India - their nature and coverage, impact on the local economy, factors determining their success in India, future prospects and barriers to growth and investment. The structure of the study is as follows: Section 2 gives a brief overview of India’s logistics sector. Section 3 provides an analysis of the recent trends and developments in the Indo-European trade and investment in logistics. It also examines the future prospects for European companies in India. Section 4 covers the barriers faced by European companies in India. The last section suggests the way forward.

2. Overview of India’s Logistics Sector

The Indian logistics sector is large with a turnover of approximately $80 billion (€60.6 billion), employing around 7.3 million people and growing at about 10-12 percent per annum. It is a prime mover of the economy with vast implications on commerce and trade. Transport sector - internal (domestic) and external i.e. (beyond domestic frontiers),

2 Since the study focuses on the Indian market it does not cover barriers faced by Indian companies in the EU.
3 Colliers International (2009)
constitutes an important part of the supply chain along with other segments of infrastructure (viz. ports and warehouses) and auxiliary services (cargo handling, customs clearance and packaging, inventory management, packaging etc.).

For domestic freight movement, roads account for about 60-65 percent of the total share of freight; railways account for 30-33 percent; maritime (coastal and inland) about 5 percent while the remaining is through air carriers. For international trade, unlike the intra-EU trade where railways and land transportation play a major role, shipping is the dominant mode of international freight transport in India, accounting for about 90 percent of it by volume (and 70 percent by value).

India has the second largest road and highway network in the world and freight traffic through this mode is growing at 8-10 percent annually. Indian Railways is the world's fourth largest rail network and the principal mode of inland and long-distance bulk cargo movement. It carries about 1.2 million tonnes of freight per day. It is growing at about 7.3 percent annually. The shipping sector is ranked 17th globally in gross tonnage and its merchant fleet is the largest among the developing world (1031 vessels). Cargo handling at major ports of India has been growing at an average rate of about 7 percent per annum in the past five years. In comparison, the aviation sector although not large in size, is one of the fastest growing in the world (12 percent annually). The total warehousing space in India estimated at around 60 million metric tons (2007), while the express delivery services (EDS) segment is estimated at around Rs. 90 billion (€1.485 billion) and growing at around 20-25 percent per annum.

India started its broad-based economic reforms and liberalization process in the year 1991 which resulted in increased volumes of economic activity and trade flows in the subsequent years. This created the need for investment in high capacity/efficient logistics

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4 Inland water transportation is underdeveloped despite 14,000 kilometres of navigable rivers and canals.
5 Rest of the international trade is through air transport; less than one percent of international trade in through land transport. Trade through roads and railways is only with neighbouring countries.
7 Growth rates of various segments are for the period 2006-07 to 2010-11 (April-November) are compiled from the Economic Survey 2010-11, Government of India, and industry survey by authors. For details on these sectors, see Mukherjee and Miglani (2010).
8 Colliers International (2009)
9 Express Industry Council of India (EICI), [http://www.eiciindia.org/FrontSite/aboutus.aspx](http://www.eiciindia.org/FrontSite/aboutus.aspx)
infrastructure which could not be made by government investment alone. To sustain the economic growth and create supporting logistics infrastructure, the Indian government encouraged entry of private players in logistics in the 1990s which was previously dominated by government monopolies. The liberalization process was undertaken in a phased manner over the years and was characterized by measures such as relaxed foreign direct investment (FDI) regulations, public-private partnership (PPP) models, tax-concessions and other incentives to encourage private players. The aim was not only to attract additional investment, but also improve productivity/quality of services and infuse competitiveness in the sector.

The logistics sector in India has undergone significant changes in the past two decades with increased private participation and consolidation. FDI is allowed in almost all the segments (including road transport, port development, storage and warehousing), except a few (see Table 2.1). With relaxed FDI norms and other incentives along with high margins in the industry, private (domestic and foreign) companies started investing in this sector. Between April 2000 and June 2011, FDI in ports, sea transport and air transport accounted for around US$3000 million or €2271 million (around 2 percent of cumulative inflows) into the country. With the entry of private players, infrastructure got modernized, new technologies were introduced and innovative business practices brought about operational efficiency in areas such as ports and airports.

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10 If allied areas of construction; automobile industry; railway related components; and earth moving machinery are considered, this figure is more than 10 percent as per DIPP Statistics, http://dipp.nic.in/English/Publications/FDI_Statistics/2011/india_FDI_June2011.pdf
Table 2.1: Some segments with restrictive FDI Regime

<table>
<thead>
<tr>
<th>S. No</th>
<th>Segment/Activity</th>
<th>Percentage of FDI cap/equity</th>
<th>Entry Route</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Railway Transport (other than Mass Rapid Transport Systems)</td>
<td>Not Allowed</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Aviation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Airports</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Existing projects</td>
<td>100</td>
<td>Automatic upto 74 percent Government route beyond 74 percent</td>
</tr>
<tr>
<td></td>
<td>Air Transport Services</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1) Scheduled Air Transport Service/ Domestic Scheduled Passenger Airline</td>
<td>49 (100 for NRIs)</td>
<td>Automatic</td>
</tr>
<tr>
<td></td>
<td>(2) Non-Scheduled Air Transport Service</td>
<td>74 (100 for NRIs)</td>
<td>Automatic up to 49 percent Government route beyond 49 percent and up to 74 percent</td>
</tr>
<tr>
<td></td>
<td>Other services under Civil Aviation sector</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1) Ground Handling Services subject to sectoral regulations and security clearance</td>
<td>74 (100 for NRIs)</td>
<td>Automatic up to 49 percent Government route beyond 49 percent and up to 74 percent</td>
</tr>
</tbody>
</table>


Note: (1) Automatic route is the fast-track route wherein no prior approval is required for FDI. Only information to the Reserve Bank of India within 30 days of inward remittances or issue of shares to Non Residents is required.

(2) Foreign Investment not covered under the ‘Automatic Route’ is through governmental approval on recommendations of Foreign Investment Promotion Board.

(3) NRIs refer to Non-resident Indians

At present, logistics in India is a complex chain of processes across multiple modes of transport and centred on manufacturing and retail in key industries like automobiles and auto-components, information technology (IT), electronics, textiles, and fast moving consumer goods. Reforms in all segments are ongoing and are evolving with growth and
changing needs of the economy. Entry of experienced international players and increased economic activity has catalyzed the emergence of new segments such as third-party logistics/fourth-party logistics (3PL/4PL), reverse-logistics, EDS, cold chains and containerized cargo movement. Use of IT is embedded in almost all stages of supply process, reducing the need for multiple agents. With growing trends of outsourcing of logistics services, many service providers are developing end-to-end cargo management capabilities, attempting to establish asset ownership in key parts of cargo value chain.

In the post-liberalization era, the government’s role changed from sole provider to a facilitator of services in many segments such as air freight.\(^{11}\) With structural and other changes, efforts to build the necessary regulatory framework are made from time to time.\(^{12}\) Introduction of tax reforms (for example, the initiation of Goods and Services Tax or GST), incentives to cold storage units are some recent examples. At the international level, there have been government-to-government collaborations and tie-ups which have facilitated the growth of this sector. India signed bilateral Air Services Agreements with 104 countries. Many bilateral agreements/Memorandum of Understanding (MOUs) to promote international cooperation and foster technical and scientific co-operation have been signed with several countries in areas such as shipping, construction, maintenance and road transport facilitating sharing of cargo (with partner countries) on principles of parity and equality. A Horizontal Air Services Agreement was signed between India and EU in 2008 to bring several provisions in the pre-existing 26 bilateral air services agreements between EU member states and India in line with the EU laws.

A McKinsey & Company study published in 2010 mentioned that if the Indian economy grows at an annual GDP growth rate of 7.5 percent, freight traffic is likely to more than double between 2010 and 2020.\(^{13}\) Container traffic alone is expected to increase from the current 7.7 million twenty-foot equivalent units (TEUs) to 20 million TEUs by 2020.\(^{14}\) This will continue to create demand for logistics services. The primary growth drivers of logistics are likely to be huge investments in infrastructure and streamlining of the indirect

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11 However the Government still remains a major investor in logistics sector.
12 For details, refer to Mukherjee and Miglani (2010).
tax structure (introduction of Value Added Tax or VAT and the proposed GST) which are likely to increase existing demand, organize the market and lead to emergence of new segments. Given this massive need to upgrade infrastructure and know-how, Indian companies are increasingly looking at forming partnerships with leading global players for expertise, and have also been accessing private equity and capital markets to fund growth. For global investors, the Indian market is attractive with high consumer demand, and opportunities to diversify across a range of services/regions and a dynamic playing field. As per one estimate of KPMG (2010), over 70 percent of the world’s top 50 logistics companies have presence in India. Companies from the EU, United States of America (USA) and China are among the key foreign players with high interests to participate in this growth story.

3. Indo-European Business in Logistics: Trends, Growth and Impact

3.1. Secondary Analysis

As mentioned in the previous section, increased trade volumes and a liberalized investment environment have attracted private investment in Indian logistics sector. In terms of trade in logistics, both EU and India are among the top exporters and importers of transportation services in the world. In 2009, while the EU27 ranked first in world’s exports of transportation services accounting for about 45.4 percent share (approximately €240.73 billion),\(^1\) India’s rank was 10th, with a share of 1.5 percent (approximately €8.18 billion). The EU27 ranked on top accounting for 33.5 percent share (approximately €212 billion) of world’s total imports of transportation services.\(^2\) India ranked fifth with a share of 4.2 percent (approximately €26.27 billion) of world’s total.\(^3\) Globally, the EU and India are key players in logistics but with supplier and demander positions respectively.

Bilateral trade between India and EU has also increased. In 2009, EU27’s exports to India were €2402 million ($3173 million) and imports were €1575 million ($2080.58 million). The past five year trend in EU-India transportation services is given in Figure 3.1.1. It also shows that India has a negative trade balance with the EU in transportation services.

\(^1\) The share of extra-EU27 exports in world’s total was about 22 percent ($153 billion).
\(^2\) The share of extra-EU27 imports in world’s total was about 15 percent ($124 billion).
\(^3\) WTO International Trade Statistics 2010, Leading exporters and importers of transportation services
A disaggregated view of EU-India trade in transportation services for the year 2007 is shown in Table 3.1.1. Though this data is outdated it is selected since it is free from the biased impact of economic recession on trade in the sector.

Table 3.1.1: EU27 trade in Transportation Services with India (2007) (in million €)

<table>
<thead>
<tr>
<th>Segment</th>
<th>Credit</th>
<th>Debit</th>
<th>Net</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation</td>
<td>2743</td>
<td>1544</td>
<td>1198</td>
</tr>
<tr>
<td>Sea transport</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freight Transport on sea</td>
<td>1156</td>
<td>350</td>
<td>807</td>
</tr>
<tr>
<td>Supporting, auxiliary and other services</td>
<td>46</td>
<td>404</td>
<td>-358</td>
</tr>
<tr>
<td>Air transport</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freight Transport by air</td>
<td>286</td>
<td>121</td>
<td>164</td>
</tr>
<tr>
<td>Supporting, auxiliary and other services</td>
<td>364</td>
<td>175</td>
<td>189</td>
</tr>
<tr>
<td>Other transportation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freight on other transport</td>
<td>114</td>
<td>69</td>
<td>45</td>
</tr>
<tr>
<td>Other on other transport</td>
<td>58</td>
<td>41</td>
<td>17</td>
</tr>
<tr>
<td>Rail transport</td>
<td>9</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Road transport</td>
<td>82</td>
<td>67</td>
<td>15</td>
</tr>
<tr>
<td>Inland water transport</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Pipeline transport</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Other supp. and aux. transport services</td>
<td>37</td>
<td>37</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: EuroStat (2009)

India between April 2000 and January 2011, investments in the logistics sector have been growing and have ranged among the overall top ten equity investments in India. EU companies (such as HSBC Bank Plc of United Kingdom (UK), Karanja Terminal & Logistics Cyprus Ltd. and Essar Shipping Ports & Logistics Ltd. of Cyprus and some other sources (foreign institutional investments etc.) are among the major investors in India. They are also amongst the largest players in technology transfer.

3.2. Primary Analysis: The Survey

For a detailed understanding of the prospects for EU businesses in India, a primary survey was conducted in the year 2010. The survey was conducted using random sampling technique. It covered eight cities and respondents across six categories - Indian companies;

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18 In allied area of vehicle manufacturing for goods transport, Volkswagen AG of Netherlands made an equity investment of US$ 91.78 million in Volkswagen Group Sales India Pvt. Ltd.

19 DIPP Statistics, [http://dipp.nic.in/](http://dipp.nic.in/)
EU companies; other foreign companies; industry associations/councils; Indian government organizations/ministries/embassies; trade representatives and sector experts. The sampling framework is given in Table 3.2.1. Companies were selected through web search and inputs from embassies and government sources. In total, about 140 companies agreed for interviews which were based on semi-structured questionnaires. Many questions were kept open-ended to have a clear understanding of the respondent’s perceptions and plans, while some entailed rating of certain options on a rating scale. 139 completed interviews were received. Since the sample size is small, descriptive techniques have been used to analyze the data.

Table 3.2.1: Sampling Framework

<table>
<thead>
<tr>
<th>Respondent Category</th>
<th>Segment</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Construction &amp; Consultancy and allied areas</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>Transport and Logistics service providers (freight forwarders, EDS, customs clearing agents, etc.)</td>
<td>104</td>
</tr>
<tr>
<td>Indian companies</td>
<td></td>
<td>55</td>
</tr>
<tr>
<td>EU-based companies</td>
<td></td>
<td>35</td>
</tr>
<tr>
<td>Third world companies</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Industry Associations/ Councils</td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>118</td>
</tr>
<tr>
<td>Indian Government organizations/Ministries/Embassies</td>
<td></td>
<td>16</td>
</tr>
<tr>
<td>Trade representatives and sector experts</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Grand Total</td>
<td></td>
<td>139</td>
</tr>
</tbody>
</table>

Some of the key survey findings are given below while the responses on barriers are analysed in Section 4.

- **Mode of entry and operation**: Most of the EU companies in India are large scale MNCs (multi-national corporations) with global operations. The route of entry is through mergers and acquisitions (M&A); or joint venture, or wholly-owned subsidiary.

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20 To have some detailed knowledge of the issues in the sector, companies from allied areas such as construction and consultancy and equipment manufacturers were also covered. A few non-EU companies were also interviewed to understand their view of the Indian and European logistics markets.
liaison/representative office, project office or branch office. Within this, the M&A was found to be a popular route of entry, especially for leading global EU companies. As for the relatively medium and small-sized companies, wholly-owned subsidiary was the preferred route of setting up presence in India. This also shows their long term commitment to the Indian market. In many cases, the initial entry path of companies was contractual service projects through which they could access the market potential and opportunities. Once they gathered the market knowledge the mode of operation depended on the government’s FDI policies, corporate tax regulations, and also the company’s interest to invest/operate. The survey participants pointed out that in India, EU companies preferred to operate in joint ventures or a consortium where they provide technical expertise while the Indian partner with local market knowledge handles legal and other administrative issues. Many EU companies have PPP projects with the Indian government.

- **Regional and sectoral presence:** Most EU companies begin their operations in the western, southern or northern parts of India where major business and trade hubs are located and then gradually spread to the east. They have skills across a wide range of logistics segments from core services such as cargo handling/freight forwarding/container leasing to related services like management planning and management, consulting, design, technical testing and analysis services and courier services. Many EU companies have undertaken high value projects across segments such as national highways and road transport, railways, ports and special economic zone projects in India for the central, state and local governments through operations under various PPP models. MNCs such as DHL and TNT have had a presence in India for a number of years, while others like UK-based Ashmore Alchemy have invested recently (in 2010). The survey found that the share of the Indian market in EU companies’ total logistics business is small but it is growing at a rapid pace (20-25 percent). They are also involved in transport-related IT development (such as management software), traffic projections/control systems, development of automation and safety systems, and toll and parking management. Companies such as Alstom Transport SA and Alcatel CGA Transport (France) are operating in India for a long time providing services such as automatic fare collection systems, signalling and telecommunications systems, and
electrification and maintenance of railway tracks, among others.21 A number of EU companies have established presence in construction and consultancy and equipment manufacturing related to logistics.

It was found that presence of EU companies is not even across all segments of logistics and their presence in areas like shipping and container transport is more than the others. For instance, five companies in India namely, A.P. Moller-Maersk Group (Denmark), Mediterranean Shipping Company S.A (MSC) (USA), CMA CGM S.A (France),22 Evergreen Shipping Line (Taiwan) and Hapag Lloyd AG (Germany), account for 45 per cent of shipping market of which three are from the EU. In ports, EU companies have made significant investments in private terminals infrastructure and operations. Some companies specialize in handling of special products. For example, Royal Vopak, the Netherlands-based tank terminal operator specializes in storage and handling of liquid and gaseous chemical and oil products in the Port of Kandla.23 Some of them such as DHL (through Blue Dart, India), TNT etc. are the market leaders in India in air express and integrated logistics segments.

- **Inter-government agreements** play a key role in railways, which is still a government monopoly. For instance, in 2008 the Ministry of Railways signed a MoU with French National Railways SNCF International (Société Nationale des Chemins de Fer) to develop high-speed lines and enhance the capacity of freight corridors. Similar agreements have been signed with Germany, Italy and Austria for technical assistance and cooperation.

- **Strengths and Weaknesses of companies:** Respondents pointed out that Indian and EU companies have trade complementarities in the logistics sector. Indian companies have local market knowledge, are flexible in their operations and have lower costs. On the other hand, EU companies have a wider global reach, better technology, better operational standards, and can invest more on research and development (R&D).

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22 Named after the merger of two companies – Compagnie Générale Maritime and Compagnie Maritime d’Affrètement.

23 It is one of India’s largest independent storage facilities for chemicals and vegetable oils comprising two sites of 261,600 cubic meters capacity. It will be used to serve international and domestic customers that require independent tank storage and handling services to transport their products to India.
However, costs of operation of many EU companies are high and their knowledge of the local Indian market is low. Due to this, they face competition not only from Indian companies but those from other countries like China. Partnerships with Indian companies can help them mitigate some of these disadvantages (especially the high costs) and as a result, many EU firms are expanding operations through strategic alliances in India.

- **Perception of Indian market**: When asked about the size of the Indian market and future growth potential, they said that on an average, revenue from their Indian operations accounted for less than 5 percent of their total global revenue but it is growing at 15-20 percent per year. The Indian market holds high potential as it is still growing at a fast pace whereas the European market is becoming saturated. They projected that their revenue growth rate from India to be in double digits for the next 10 years as logistics infrastructure will remain a focus sector for the Indian government.

Factors such as India’s GDP growth, globalization of the economy and relaxed FDI norms were cited as the most important factors for investing in the Indian logistics sector. Figure 3.2.1 shows that other important factors are, infrastructure development and high consumer demand in the economy. Although central government policies are rated as an important factor, EU companies found state government policies to be of lesser importance. Availability of skilled workforce or scope for technological development seems less important. This is crucial since companies mostly stated that product customization for this market is limited.
Figure 3.2.1: Perception Ranking of Factors Responsible for Growth in India

(In percentage)

Source: Compiled from primary survey.

Note: This was a multiple-choice question wherein the respondents were asked to rank factors on a 5 point rating scale; where 1 was “very important”; and 5 “least important”. The labelling shows where companies gave high rankings of 1 or 2.

• Future expansion plans and areas of future collaboration: EU companies are optimistic about their future growth prospects in India and most of them predict a very high growth rate. Around 90 percent of the respondents pointed out that they are expanding their operations either in terms of covering more cities, offering additional services or increasing investment in equipment and technology across various segments.

In order to reduce burden on the existing infrastructure available at the metro airports, companies argued that there is a need to develop the alternate infrastructure in and around the airports for handling of international cargo. Survey participants believed that warehousing and storage requirements are likely to grow as the Indian government is
considering the concept of setting up "Cargo Villages" at international airports and businesses are integrating into global value chains. They expect high growth in container traffic, EDS, cold chain logistics and 3PL/4PL as India’s volume of trade is expected to grow in future. There are also opportunities in provision of consultancy services. There is scope for investment in logistics parks and modern warehouses.

In the long run, new services such as toll management and traffic and parking management will offer investment opportunities. Indian and European companies can have joint R&D programmes for fuel-efficient technologies. The present technical standards differ in India and the EU and there is scope for collaboration in streamlining the technical standards across transport equipment and environment-friendly technologies. Sharing knowledge and information on technical standards would benefit companies from both regions. A new area where the EU companies can possibly invest in is management and training institutes in supply chain management as there is a shortage of skilled workforce in the industry with the structural transformations in the sector.

4. Barriers

The recent focus of the Indian government on infrastructure development offers huge opportunities for EU companies, but these are unlikely to be realized until the barriers in this sector are tackled. The logistics sector is a vast inter-connected chain which would not function to full capacity if there are inefficiencies in even one of its constituent segments.

India spends about 13 percent of GDP on logistics annually which is high compared to developed economies like the USA and EU which spend 9.5 percent and 11 percent of GDP respectively. Existing studies (such as Planning Commission, 2009; Deloitte, 2009; KPMG, 2010 etc.) shows that despite reforms over the past two decades, there are a number of inefficiencies which impact productivity, performance and revenues of companies. The World Bank’s ‘Doing Business Report 2011’, which ranks 183 countries in terms of ease of doing business based on 10 indicators, ranked India 134 much lower than China (79) and many EU countries such as UK (4), Sweden (14), Italy (80) and Greece (109). The sub-indicator of ‘trading across borders’ reflects logistics and transportation issues; on this indicator, India has a much lower rank (100) than China (50) and the simple average for EU countries (38.5) [see Table 4.1]. In the World Bank’s

24For details, see World Bank-International Finance Corporation (2010)
Logistics Performance Index (LPI), 2010; India’s modest ranking (47) shows its weaknesses in seven selected parameters including customs, infrastructure, international shipments, logistics competence, tracking and tracing, and timeliness.

**Table 4.1: World Bank’s ‘Trading Across Borders’ Indicator, 2011**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>EU26 average</th>
<th>OECD</th>
<th>India</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>Documents to export (number)</td>
<td>4.5</td>
<td>4.4</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Time to export (days)</td>
<td>11.5</td>
<td>10.9</td>
<td>17</td>
<td>21</td>
</tr>
<tr>
<td>Cost to export (US$ per container)</td>
<td>1025.3</td>
<td>1058.7</td>
<td>1055</td>
<td>500</td>
</tr>
<tr>
<td>Documents to import (number)</td>
<td>5.3</td>
<td>4.9</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>Time to import (days)</td>
<td>12.1</td>
<td>11.4</td>
<td>20</td>
<td>24</td>
</tr>
<tr>
<td>Cost to import (US$ per container)</td>
<td>1086.5</td>
<td>1106.3</td>
<td>1025</td>
<td>545</td>
</tr>
<tr>
<td>Overall Trading Across Borders Rank 2011</td>
<td>38.5</td>
<td>-</td>
<td>100</td>
<td>50</td>
</tr>
</tbody>
</table>

Source: Authors compilations from World Bank Doing Business 2011 indicators;

For EU, Malta is excluded due to unavailability of data.

Data sources from the Ministries of Road Transport and Railways indicate that with development of logistics and growing competition, there has been a gradual shift in freight traffic from rail to road transport and as a result the share of traffic carried by different modes of transport is uneven.\(^{25}\) In India, about 57 percent of goods are transported by road and 36 percent by railways, unlike China where almost 50 percent of goods are transported by rail. Underdeveloped infrastructure in shipping and aviation and the Indian Railways’ policy of cross-subsidising passenger by freight transport among others, have led to the road sector being excessively-burdened over the years.\(^{26}\)

Multi-layered administration systems and multiple regulations in the sector are major problems. Unlike the EU, India has a quasi-federal governance structure. Certain sectors (such as railways, national highways, major ports, international shipping, civil aviation and inland waterways) are under the jurisdiction of the central government, while others (such as state and rural roads, minor ports and coastal shipping and trucking) are under the state governments. Also, there are certain areas of joint jurisdiction. Over 20 government bodies govern this sector through more than 40 Acts, resulting in high administration and

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\(^{25}\) Share of road transport increased from 50 percent of freight traffic in 1990-91 to 65 percent by end 2006-07.

compliance costs. Presence of a large number of ministries results and lack of coordination among them has resulted in a fragmented approach and delayed development of the sector. A Planning Commission (2009) study shows that there are about 20 procedures to be complied with in setting up a warehouse in India, making it a very time-consuming process (taking up to 270 days) compared to Korea, Finland, Denmark and USA.

The primary survey confirmed these issues and also identified some other impediments in the sector. A snapshot is given in Figure 4.1 gives the percentage of respondents who rated a particular barrier as “most restrictive” or “restrictive”. Some are specific to certain modes or segments, and others are faced by all of them. For instance, bureaucratic problems and corruption were pointed out by all respondent categories - freight forwarders, construction and consultancy, equipment manufacturers and CHAs. Surprisingly here, lack of skilled manpower was also one of the major barriers mentioned which also ranked as one of the factors that had initially attracted them to invest in India. They admitted that most employees at worker level have experience based skills which need to be upgraded from time-to-time, but formal training in skill was lacking. Though skilled workforce was sufficiently available in some areas such as the merchant navy fleet, it was relatively scarce in others like proper equipment handling and supervisory skills at ports or warehouses. Infrastructure related issues like lack of facilities in railways, ports and airports were other general problems. Certain specific barriers like problems in Indian legal system and restrictive inter-state movement were faced in specific categories such as construction and consultancy; and freight forwarders and equipment manufacturers respectively. Overall, lack of skilled workforce, lengthy procedures, inadequate infrastructure and corruption were rated as restrictive barriers by most respondents.

It is interesting to note that barriers for some logistics segments are opportunities for companies in other segments. For instance, infrastructural constraints at ports or in roads are hurdles for freight forwarders and customs clearing agents but they provide investment opportunities for construction and consultancy firms. Similarly, management or administrative hurdles in some areas provide opportunities for providing planning and management solutions.
Figure 4.1: Barriers Faced by EU companies in India (in percentage)

Source: Primary survey results.

Note: This was a multiple-choice question; companies referred to more than one barrier depending on the type of service provided. EU companies were asked to list barriers that they face in India on a scale of 1 to 5; 1 being the most restrictive barrier and 5 the least.

- **Market access barriers** in terms of FDI restrictions are present in railways and in some areas of air transport. Companies did not find FDI limitations as a major barrier in case of airlines, because several countries, including many EU member states also have FDI restrictions on airlines. However, monopoly position of the Indian Railways makes it difficult to do business despite it trying to attract private sector through PPP projects. There are delays in award of contracts due to monopoly-related inefficiencies and bureaucracy. Although private sector has shown interest in investing in multi-modal logistics parks proposed by the Indian Railways, tender approval processes and land acquisition is slow. Cabotage provisions under the Indian Merchant Shipping Act 1958 reserve coastal trade for Indian flagged vessels. Chartering of foreign lines is allowed only if Indian vessel of required size...
is not available. Survey participants argued that although this is a barrier it is not specific to India since many major maritime nations (USA, China, Indonesia, Brazil etc.) reserve coastal trade for domestic companies and have even stricter laws in some cases.\textsuperscript{27}

- **Fragmented segments:** A key factor behind high logistics costs in India is the underdeveloped nature of the sector characterized by high fragmentation. Chain control is lacking and the concepts of integrated service provision, outsourcing or 3PL/4PL logistics are still underdeveloped.\textsuperscript{28} Such issues increase operational costs and lead to unnecessary price competition.\textsuperscript{29}

- **Inadequate infrastructure:** India’s trade is steadily growing and the inadequacy of existing physical infrastructure to handle the growing volume of logistics is evident in many segments. For instance, in land movement, although the government has focused on investment in improving highways, the roads are not well maintained and there are capacity shortages therein. Passage corridors for trucks lack clear lanes and are congested at various locations especially the non-metro cities. On an average, a commercial vehicle in India runs at a speed of 32 kilometers (20 miles) per hour compared to over 97 kilometers (60 miles) per hour in mature logistics markets of Western Europe and the USA.\textsuperscript{30} Moreover, many national highways are two-lane and are not properly linked to major economic centres.

Many major ports lack berth capacity to accommodate large ships and can only accommodate feeder vessels, resulting in delays during trans-shipment. Outdated equipment for cargo handling, lack of proper facilities for speedy clearance and even storing specific cargo, and lack of hinterland connectivity also cause delays at these places. The new private ports fare comparatively better and recently the major ports

\textsuperscript{27} http://www.thehindubusinessline.com/industry-and-economy/logistics/article2412421.ece

\textsuperscript{28} A large number of SME manufacturers cannot afford services of specialised logistics service providers but instead operate with multiple agents to save costs.

\textsuperscript{29} Deloitte (2009) have shown that there is an inverse relationship between logistics cost and share of 3PLs in the sector. Examples of fragmented segments are road transport/trucking operators and private warehousing. The small operators operate at low margins and the larger players face tough price competition.

\textsuperscript{30} The average freight tariff of Indian Railways is 66 percent higher than in China Source: Data Monitor (2007).
(government-regulated) have started losing business to them.\textsuperscript{31} Nevertheless, average vessel turnaround time and waiting time have been much higher in India than in international ports and ships have to wait for long for berthing, loading/unloading.\textsuperscript{32} Other areas of discontent are long transit times between ports and inland container depots (ICDs) caused by low-speed trains and limited number of rail loading/unloading points. It was found that cargo may take up to 4-5 days to reach Delhi from Mumbai by rail (a distance of only 1,384 kilometers) due to capacity constraints.

In aviation, although airports are being privatized, there is lack of crucial infrastructure such as covered cargo storage and cold chain facilities. Lack of gateway and hinterland connectivity hinders smooth movement of cargo at many locations.

Warehouses are often located inside cities and zoning restrictions impact access to warehouses. There is lack of accredited warehouses with prescribed and uniform service/trading standards (other than those governed by the Customs Act) across states which have been creating supply-chain bottlenecks in food distribution and pricing issues. Many warehouses are still manual, lack bar-coding and scanning facilities. Across the country there is shortage of cold chain storage facilities.

- Delays in \textit{Customs clearance} due to infrastructural constraints were also cited as a major problem. Though India and EU signed a customs cooperation and mutual administrative assistance agreement in 2004, there was lack of awareness about it in the industry. Companies complained about the time-consuming physical inspection of goods, requirements for physical images of invoices and bills and lack of single-window clearing system. Rather than functioning as a trade facilitating mechanism, the Indian Customs act as a revenue generating agent. They also felt that the Electronic Data Interchange (EDI) technology needs improvement as the server gets jammed in peak hours making the clearing process slow.

\textsuperscript{31} Minor ports have grabbed 35 percent share in cargo handling in the country from a mere 5 percent in 1999.

\textsuperscript{32} Ships generally have to wait long in channels for berthing; productivity in loading/unloading is low. The national average turn-around time for dry bulk and containers is 5.7 days and 1.9 days respectively. This is much more than major international ports like Hong Kong, Rotterdam or Singapore where turnaround time is less than a day.
• *Workforce related constraints:* India lacks skilled workers in logistics - a problem also hampering many areas from truck driving to activities like pilotage, manufacturing freight container trains and cargo handling at ports, airports and warehouses. As a result, labor costs are rising as well. Other labor related issues include strong trade unions at major ports.

• There are impediments in *inter-state transportation,* unlike the EU which has developed a ‘single market’ over the years. In India, a goods carrier has to get clearance from several agencies, including the state tax department, regional transport officers, state excise department, forest department and civil supplies department. The policy of imposing multiple and sequential checks of vehicles conducted by various agencies at inter-state border check-posts cause major concern for freight forwarders as they result in slower deliveries, high fuel consumption and under-utilization of capacity. Multiple documentation requirements cause delays.

• Some companies cited *regulatory constraints in the sector.* For example, there is an absence of a common multimodal transport policy framework as there is no single Ministry of Transport. The criterion for revenue sharing of companies as against their service capabilities in awarding PPP concessions during bidding for contracts made Indian ports more expensive for them as compared to other international ports. Long time gaps from planning policy to actual implementation and operations are also observed. For instance, in April 2008, the Ministry of Civil Aviation announced a Greenfield airports policy but work on most Greenfield airports is yet to begin. Among the delayed projects are the Navi Mumbai airport, Mopa airport in Goa and Kannur airport in Kerala, other non-metro airports and also the multi-modal International Hub Airport at Nagpur. Similar complaints of delays in project completion are also being reported in dedicated freight corridors and the highway construction policy of the National Highway Authority of India.

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33 Other Ministries such as Agriculture, Textiles, and Heavy Industries also play their roles in some logistics areas making the management more complicated.

• **Corruption:** Every segment of logistics faces the problem of corruption and bribes. A significant share of costs borne by truckers is on account of ‘unofficial payments’ or bribes made on various pretexts to corrupt officials at border check posts, toll plazas, highway transits and even towing vans to allow movement of goods. Customs agents also complained of a significant volume of cargo cleared by bribing, sometimes for quick clearance (to cover up for delays already caused due to poor infrastructure/operations) or simply to receive the services of officers.

• **Other barriers:** Companies cited that there are delays and difficulties in acquiring land for expanding airports and warehouses, raising money and lack of clarity in government guidelines. Some companies mentioned safety risks in Naxalite-affected areas of West Bengal, Andhra Pradesh and Orissa.

Indian container-handling costs at ports and costs for equipment use at privatised airports are higher than other countries.\(^{35}\)

5. **Conclusion**

The study shows that the Indian logistics sector is growing at a fast pace. Huge investments are likely to be made in this sector over the next decade offering opportunities to the private sector.

As a logistics hub, India is still underdeveloped but has many advantages at other levels. These include a stable and democratic political climate, favorable legislative policies, a large and growing manufacturing and consumer base and cheap workforce among others. The EU, on the other hand, has a well-developed transport and logistics sector, and is home to some of the largest and most established companies in the world, with global outreach, knowledge in multiple segments and advanced technological skills. Hence, they can well contribute in developing the Indian logistics sector.

However, there are various barriers affecting trade between India and EU identified in the study, which if removed can enhance economic activity and profitability in logistics. These can be removed in two ways. The first is through initiation of domestic reform measures.

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\(^{35}\) Port costs at Dubai are almost 25 percent and at Colombo and Singapore just 40 percent of those at JNPT. For details see Planning Commission (2009).
There is a need for an integrated transport policy and coordination among different government agencies which influence the sector. These need to focus on improving efficiency in the system, streamlining Customs procedures and approval processes, bringing about transparency in government procedures, labour reforms among others. Next, there is need for enhanced investments in infrastructure. In many cases, there is scope to benefit from the technological capabilities of EU companies and even enter into greater PPP arrangements in new areas such as skill training of workforce. India can also learn from the experience of EU in creating a single European market for transport and its advanced regulations in logistics areas like Customs.

India and EU are discussing logistics issues in a number of forums including the India-EU BTIA. However, the discussions have not resulted in visible outcomes and the industry has not benefitted much from it as the process of bilateral trade negotiations is slow. There is need to speed up the BTIA negotiations. In the negotiations, the EU should ask India to bind its existing FDI regime in logistics. It is worth mentioning that India’s WTO commitments in this sector are much lower than the present autonomous regime. If EU can secure binding commitments it will give operational certainty to EU business in a sector where gestation period is long. This is because it is more difficult to roll back a bilateral commitment than an autonomous liberalization. The industry also argued that there is a need to have a separate chapter on India-EU cooperation in logistics sector in the BTIA as there is scope for increased Indo-EU collaboration in maritime auxiliary services, warehouses (esp. cold storage), 3PL/4PL, clean-fuel technology transfers, and; construction and maintenance which can be addressed in this chapter. Along with the BTIA negotiations, India and EU can relook at the Customs Cooperation Agreement and jointly work towards implementation of a better Customs risk management system in India. India can also learn from the EU’s advanced regulatory framework and implement a seamless inter-state transportation system domestically.

If India implements the domestic reforms, it will create an enabling environment for more EU investment. This will also benefit EU companies since their domestic market is growing at a much slower rate than India. In addition if the India-EU BTIA is implemented, it will enhance operational certainty. Among major investors in this sector, the EU companies will gain a competitive edge over their competitors. Given the complementarities between Indian and EU companies, this will lead to improvement in
overall efficiency of this sector and through facilitation of trade, enhance India’s global competitiveness.
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