India-Japan Economic Partnership Agreement: Gains and Future Prospects

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Abstract

Economic relations between India and Japan have improved in recent times and the signing of the India-Japan Economic partnership Agreement (EPA) is further expected to boost bilateral trade and investment relations between the two Asian giants. In this backdrop, the present paper has attempted to analyse the likely impact of India-Japan EPA on both trade and investment relations and other areas of cooperation. The study finds that reduction of tariff barriers will help India boost its exports in many sectors such as pharmaceuticals, agricultural products, textiles etc where as Japan will benefit much in the area of automobiles and high value added consumer goods. Further, the paper also explores the provisions under EPA to address existing non-tariff barriers in both the countries and their likely impact on trade. The agreement is expected to pave the way for increased Japanese investment in India as the EPA clearly defines rules about investment, taxation and social security. Investment in Infrastructure sectors by Japan in India is also expected to increase.

Key words: Regional trading agreements, Bilateral trade, Asia

JEL Classification: F15, F13, F1, F21

1.0 Introduction

Japan and India are two leading economies in Asia. According to the latest World Development Indicators, Japan's Gross National Income (GNI) (estimated based on purchasing power parity) for the year 2007 was $4.4 trillion while its GNI (PPP) per capita stood at $34,750. Japanese GDP grew at 2.1 per-cent in 2006-07 after registering an average growth rate of 1.7 per-cent during the period 2000-07. Comparative figures for India stood at $3.08 trillion, $2,740, 9.1 per-cent and 7.8 per-cent respectively. The Japanese economy is

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highly advanced, with the services sector accounting for 68 per-cent of the GDP in 2007. The industrial sector, once the engine of Japan's growth, now contributes only 30 per-cent to the GDP while the agricultural sector accounts for one per-cent. Similarly, the services sector is the largest contributor to India's GDP, accounting for 52 per-cent while agriculture and industry contribute 18 per-cent and 30 per-cent respectively. The two countries, therefore, share a similar structure, especially with regard to their reliance on the services sector. In recent years, India and Japan have strengthened bilateral ties through new initiatives and programmes ranging from economic and cultural linkages to defense and security. The year 2007 was celebrated as the Year of Friendship between the two countries. Japan gives 30 per-cent of its overseas development assistance (ODA) to India and remained committed even during the period of the global economic downturn. For example, Japan has granted almost $4 billion for the Delhi-Mumbai Industrial Corridor (DMIC).

Nevertheless, the economic part of the relationship remains far below potential. Japan, with a population of around 127 million, has slipped behind China to become Asia's second-biggest economy. According to WDI, its gross domestic product (GDP) totaled $5 trillion in 2009. On the contrary, the GDP of India, the third-largest economy in Asia, totaled $1.3 trillion in 2009. It has the world's second-biggest population, at more than 1 billion people.

Japan and India agreed in 2007 to increase two-way trade flows to $20 billion in 2010, but bilateral trade totaled just 940 billion yen ($11.55 billion) in 2009, about 4 percent of Japan's trade with China. Japan exports mainly machinery, electronics, iron and steel products to India, while India exports mainly oil, iron ore and chemical products to Japan. Japan is India's 14th-biggest trading partner, while India is Japan's 27th-biggest trade partner. Bilateral trade and investment flows between the two countries have been unspectacular because Japanese companies have focused on business with China and Southeast Asia. About 630 Japanese firms are operating in India and Japan's direct investment in India totaled about 344 billion yen in 2009, according to the Japanese Government data.

In the context of the global recovery and country's trying to increase trade and exports, a paper on Indo-Japanese trade relations and also analysis of services, investment and other areas of cooperation between the countries in the backdrop the impending Economic Partnership Agreement (EPA) would be appropriate and relevant to highlight the problems faced by the two countries and to suggest measures to boost trade and investment between

them. For instance, several industries in Japan are now in the sunset phase because the current international economic environment has rendered them non-competitive. Exports from the manufacturing sector in Japan have declined in recent years. Such industries could survive if they were relocated and India is a first class option. Consumer durables and food processing industries, for instance, could be relocated to India where skilled labour is available at a reasonable cost. Such industries will not only be able to take advantage of India's huge domestic market but could also use India as a base to export to other countries, besides catering to Japan's own domestic market. For many countries in the region, enhanced trade and investment relations between Japan and India would act a counterbalance to the growing influence of China. Stronger economic ties with Japan would also help India establish its presence in East Asia and get market access for its exports through Japan's bilateral agreements with other countries in the region.

Another important aspect affecting Indo-Japan trade is the tariff and non-tariff barriers in both the countries. Japan exercises few non-tariff barriers like import prohibitions and quantitative restrictions on imports from India for example on the imports of fish and silk items. Japan's Sanitary and Phytosanitary Measures (SPS) standards are major barriers to Indian exports of poultry, meat, tuna and shrimp marine products, fruits like mangoes/ grapes etc. Manufacturers of these products feel that, they are rendered uncompetitive and denied market access. This highlights the need for sharing and facilitating the underlying technology by way of this agreement to promote Indian exports to Japan. On the same lines, Japanese exports to India also face high tariffs which act as a major impediment to exports from not only Japan but also rest of the world. Therefore, analyzing the tariff and non-tariff barriers to trade in both the countries would be mutually beneficial to enhance trade relations.

2. 0 Objectives of the study

The proposed study attempts to document the existing levels and pattern of trade between India and Japan. It would bring out the potential for increase in bilateral trade in goods and services along with assessment of other areas of economic cooperation including enhancing investment relations between the two countries.

Trade in Goods

- Documenting bilateral trade in goods at HS 2 and HS 6 digit levels
- Computing revealed comparative advantage of India's and Japan's exports

- Identifying complementary sectors and possible impact of the agreement on various sectors: losers versus gainers;
- Attempt to document existing levels of import tariffs and non-tariff barriers i.e. to analyse the NTBs and SPS measures faced by Indian exporters in Japan and vice versa;
- Identifying the possibilities of enhanced trade in agricultural goods and processed foods

Identifying Other Areas of Economic Cooperation

- Documenting relative strengths of India and Japan for trade in services including the identification of imports and exports of services
- Identifying complementary sectors of bilateral trade and latent potential for trade
- Identify other areas of economic cooperation
- Steps required to encourage bilateral investment flows i.e. to explore the potential areas for Indian investment in Japan and vice versa with special emphasis on Small and Medium Enterprise (SME) and service sector.

- **2.1 Methodology**

The methodology of the study is largely desk research. However, whenever required, consultations were held with trade and commerce ministry officials in both the countries to get a better understanding of the trade issues between the two countries. The major source of data for analysis is the Commodity Trade (COMTRADE) database of the United Nations. Data for India and Japan has been extracted from the WITS interface of the World Bank. The time period of the study is nine years, viz 2000-2008. The analysis is based on HS 2 and 6 digits classification.

Other data sources that have been used in the study include *Direction of Trade Statistics* (DOTS), IMF; *Congressional Research Service* (CRS) Reports published by the US Government , *India Trades*, the Centre for Monitoring Indian Economy (CMIE); *World Development Indicators*, the World Bank ; *Foreign Trade Data*, the Economist Intelligence Unit; *Trade Policy Review of India and Japan by WTO.*

2.2 Need for the study

A comprehensive study analyzing the Indo-Japan trade and investment relations in detail would not only help enhance trade relations between the two countries, but also help policy makers in the backdrop of the on-going negotiations of India-Japan EPA. The study would

act as a useful reference on all matters related to trade in goods, investment and other areas of mutual cooperation issues with respect to India and Japan.

The rest of the paper is organized as follows. Section 3 presents a brief overview of the macro economic situation in Japan and India. Section 3.1 explains India Japan trade relations. Section 4 discusses the international competitiveness of Japan and India by analyzing both countries' revealed comparative advantage in the world market and competitiveness in each other's market through bi-lateral competitiveness. This section also focuses on the concept of export dynamism and computes export diversification index for both India and Japan to understand the intensity of intra-industry trade. Section 5 focuses on the barriers to trade between the two countries by detailing SPS and Trade restrictiveness of domestic technical regulations (TBT) (measures imposed on Indian exports, testing and labeling requirements etc). Section 6 highlights trade in services in both the countries along with explaining the dwindling Japanese investment in India and constraints to further Japanese investment. Section 7 presents the gains from EPA and other areas of mutual cooperation. Section 8 is the conclusion.

3.0 Macro Economic Overview of India and Japan

India and Japan are the two most important and democratic economies in Asia. In the years following World War II, government-industry cooperation, a strong work ethic, mastery of high technology, and a comparatively small defense allocation (1 per-cent of GDP) helped Japan develop as a technologically advanced economy. Currently, measured on a purchasing power parity basis, Japan is the third-largest economy in the world after the US and China; measured by official exchange rates, however, Japan is the second largest economy in the world behind the US. From 1980 until 2010, Japan's average quarterly GDP Growth was 0.55 percent reaching an historical high of 3.15 percent in June of 1990 and a record low of negative 4.45 percent in March of 2009. Its economy is highly efficient and competitive in areas linked to international trade, but productivity is far lower in protected areas such as agriculture, distribution, and services. Japan's reservoir of industrial leadership and technicians, well-educated and industrious work force, high savings and investment rates, and intensive promotion of industrial development and foreign trade produced a mature industrial economy. Japan has few natural resources, and trade helps it to earn the foreign exchange needed to purchase raw materials for its economy. Figure 1 presents the GDP growth rates of Japan and India. The global economic recession has led to declined growth rates in the both the countries, Japan has been more drastically affected. Japan's industrial sector is heavily

dependent on imported raw materials and fuels. A tiny agricultural sector is highly subsidized and protected, with crop yields among the highest in the world. Usually self sufficient in rice, Japan imports about 60 per-cent of its food on a caloric basis. Japan maintains one of the world's largest fishing fleets and accounts for nearly 15 per-cent of the global catch. For three decades, overall real economic growth had been spectacular - a 10 per-cent average in the 1960s, a 5 per-cent average in the 1970s, and a 4 per-cent average in the 1980s. Growth slowed markedly in the 1990s, averaging just 1.7 per-cent, largely because of the after effects of inefficient investment and an asset price bubble in the late 1980s that required a protracted period of time for firms to reduce excess debt, capital, and labor. In October 2007 Japan's longest post-war period of economic expansion ended after 69 months and Japan entered into recession in 2008, with 2009 marking a return to near zero per-cent interest rates. The Japanese financial sector was not heavily exposed to sub-prime mortgages or their derivative instruments and weathered the initial effect of the global credit crunch, but a sharp downturn in business investment and global demand for Japan's exports in late 2008 pushed Japan further into a recession. The ten-year privatization of Japan Post, which has functioned not only as the national postal delivery system but also, through its banking and insurance facilities, as Japan's largest financial institution, began in October 2007, marking a major milestone in the process of structural reform; however, in December 2009, the Democratic Party of Japan led government passed a law to freeze future sales of Japan Post shares, halting the privatization process begun by Liberal Democratic Party Governments. Debate continues on the role of and effects of reform in restructuring the economy. Japan's huge government debt, projected to have reached almost two times of GDP in 2009, and the aging of the population are two major long-run problems.-

In the case of India, from 2004 until 2010, India's average quarterly GDP Growth was 8.37 percent reaching an historical high of 10.10 percent in September of 2006 and a record low of 5.50 percent in December of 2004. India's diverse economy encompasses traditional village farming, modern agriculture, handicrafts, a wide range of modern industries, and a multitude of services. Services are the major source of economic growth, accounting for more than half of India's output with less than one third of its labor force. The economy has posted an average growth rate of more than 7 per-cent in the decade since 1997, reducing poverty by about 10 percentage points.

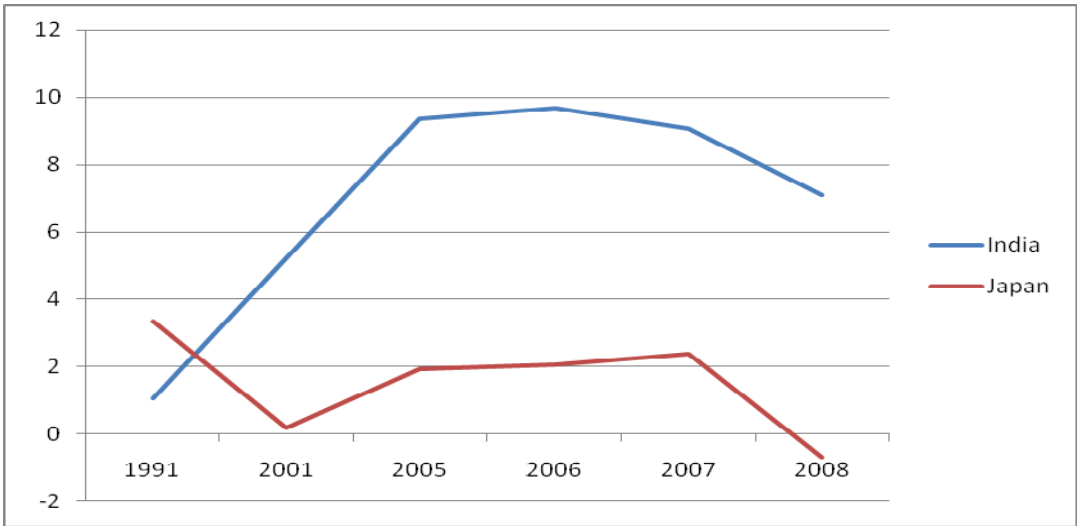
Given the stagnant Japanese economy, Japan is looking to boost trade and investment ties with India. The reasons behind this interest in India are obvious. India offers a large domestic

market base. Besides, mutual synergies between businesses in the two countries are driving initiatives.

- Japan is a relatively labour-scarce, capital abundant country that complements India's rich spectrum of human capital.
- India's prowess in the software sector lends synergy to Japan's excellence in the hardware sector.
- India's abundance of raw-materials and minerals matches well with Japan's capabilities in technology and capital to produce knowledge intensive manufactured goods.
- India's large domestic market has been the main factor for investments by Japanese companies. The majority of investments are in traditional fields like automobiles and auto parts. However, some companies have invested in businesses like pharmaceuticals (EISAI), health drinks (Yakuruto), pulp (Nihon Koso) and rice processing (Yanmar).

Japanese small and medium enterprises have begun to discover India as the new growth market. Japan and India share a common vision for the world. This is aptly illustrated by the fact that there has been an increase in the number of joint declarations, delegation visits and other business events between the two countries.

Figure 1 India and Japan GDP Growth Rate



Source: WDI 2009, Note: This growth rate is computed over the constant GDP (US$ 2000)

Table 1: Macro Economic Indicators of Japan and India for 2008 (US$ Billion)

	India	Japan
GDP (Market Price)	1159.17	4910.84
Exports	290.86	895.23
Imports	371.62	877.89
Current Account Balance	-36.09	156.63
Foreign Exchange Reserves	257.42	1030.76
Foreign Trade as per-cent of GDP	57.15	36.11
Savings as per-cent of GDP	38.00	29.00

Source: World Development Indicators, 2010

The macroeconomic indicators show that both the countries are well integrated with the world with foreign trade as a percentage of GDP constituting 57 per-cent and 36 per-cent in India and Japan respectively. As is the case with a majority of the economies in Asia, both the countries have accumulated huge foreign exchange reserves and have a high percentage of savings. However, being the largest economy in Asia, Japan's exports are much higher than India's (Table 1).

3.1 India-Japan Trade Relations

Bilateral engagement in trade has so far remained on a low key and the full potential of trade is yet to be tapped. Table 2 exhibits that Japan has always enjoyed favorable balance of trade with India, except in 2000, 2001 and 2002.

Table 2: India -Japan Trade

Year	Japan's import from India	Japan's export to India	Total Trade
1998	2176	2402	4578
1999	2245	2419	4665
2000	2637	2486	5123
2001	2216	1923	4139
2002	2091	1866	3957
2003	2175	2384	4558
2004	2611	3043	5654
2005	3216	3539	6755
2006	4061	4489	8551
2007	4166	6142	10308
2008	5244	7918	13181

Source: ORF Working Paper # 14

The volume of the two-way trade has steadily increased over years and reached a peak of over $ 13 billion in 2008. The trend towards growth is noticeable after 2004. Particularly, Japan imported $ 544 million-worth of petrochemical products from India in 2005 and the

figure rose to $1,130.4 million in 2006. Similarly, Japan's exports in machines, transport equipment and electronics registered substantial increases. Even so, considering the potential of the two-way trade, the present volume still remains small and pales into insignificance if it is compared to Japan-China bilateral trade, which is twenty times higher than that with India. Another point that deserves to be noted is that though the volume of India's global trade has rapidly grown, the share of Japan has been decreasing, which only indicates that the potential of the Japanese market has not been fully utilized. There has not been any significant change in the composition of trade and the major items of India's exports to Japan continue to be gems and jewellery, marine products, minerals, iron ore and textiles whereas Japan's exports have been mainly centered on machinery, transport equipment, electronic goods, chemicals and metal products. In other words, Japan's exports to India consist of products that are on the higher side of the value chain, but India's exports to Japan cover only the lower levels of the value ladder. Any significant breakthrough in the bilateral trade can occur only if India is able to diversify its exports. Even in 2006, Prime Minister Manmohan Singh referred to the "disproportionately small size" of Indo-Japanese trade and urged Japan to import India's knowledge-based products in the information technology and pharmaceutical sectors.

Further, we look at India's and Japan's top 10 exports to each other (Table 3 and 4). In recent times apart from the trade in goods, India's exports of software to Japan have grown dramatically marking a 60 per-cent increase in the year 2004 alone. At the same time, there have been no changes in the traditional structure in which major exports are comprised of commodities such as gems, marine products and iron ore, making diversification of the trade structure a challenge. Manufactured goods such as automobile components still constitute a large proportion of India's imports from Japan. Japan and India should study the sectors in which India has expanded its trade volume with other countries, and consider if there is any scope for increasing the trade value in, for instance, IT, textiles and fiber products, or pharmaceutical products. Hence, bearing in mind these circumstances, the challenge is to diversify the trade structure.

Table 3: Japan's Top 10 Exports to India (000 US$)

S No.	Product	Product Name	2008
1	84	Nuclear reactors, boilers, mchy & m	2662004
2	85	Electrical mchy equip parts thereof	1087154
3	72	Iron and steel.	737750
4	27	Mineral fuels, oils & product of th	590811
5	87	Vehicles o/t railw/tramw roll-stock	540803

6	90	Optical, photo, cine, meas, checkin	395503
7	73	Articles of iron or steel.	278053
8	29	Organic chemicals.	270198
9	39	Plastics and articles thereof.	207407
10	82	Tool, implement, cutlery, spoon & f	130114

Source: WITS Database

Table 4: India's Top 10 Exports to Japan (000 US$)

S No.	Product	Product Name	2008
1	27	Mineral fuels, oils & product of th	699950
2	71	Natural/cultured pearls, prec stone	391767
3	23	Residues & waste from the food indu	368007
4	26	Ores, slag and ash.	313187
5	72	Iron and steel.	308450
6	03	Fish & crustacean, mollusc & other	211462
7	29	Organic chemicals.	165888
8	62	Art of apparel & clothing access, n	113513
9	84	Nuclear reactors, boilers, mchy & m	103097
10	52	Cotton.	70957

Source: WITS Database

In an attempt to boost exports of organic products to Japan, the Agricultural and Processed Food Products Export Development Authority (APEDA) has suggested that the Japanese government accord equal status to Indian certification agencies. This step will go a long way in reducing the cost of these products in the Japanese market. At present, the prices of products exported to Japan are significantly higher than those exported to other countries. This is because the cost of certification by Japanese agencies is much higher than that charged by Indian agencies. Once Indian agencies get equivalence of standards and certification with their Japanese counterparts, the former, accredited by APEDA, can certify organic products. Organic products that are exported by India include basmati rice, honey, spices, tea, garments and some dry fruits.

Even when we examine the trade figures of Japan and India as separate countries, we find that Japan has always maintained a trade surplus with exports in most years being higher than their imports. This is a rare case as most countries generally suffer from trade deficits. Moreover Japan has always been integrated with the world Economy. In 1980 also, degree of openness to trade in Japan stood at 27.90 per-cent. It declined subsequently but increased again post 2005 to stand at 34.73 per-cent in 2008 (Table 5).

Table 5: Japan's Foreign Trade (US$ Billion)

Year	Exports	Imports	Trade Balance	Trade*
1980	144.73	154.52	-9.79	27.90
1991	346.44	290.41	56.03	18.32
2001	432.55	406.43	26.12	20.49
2002	445.25	394.11	51.14	21.42
2003	507.90	439.11	68.79	22.39
2004	612.67	523.70	88.97	24.67
2005	652.46	589.35	63.11	27.28
2006	702.98	648.40	54.59	30.98
2007	771.36	698.05	73.31	33.55
2008	855.99	849.06	6.92	34.73

Source: IFS 2009, Note: Exports, Imports and GDP all are in current prices, * per-cent of GDP

In contrast to Japan, India's export volume is much lesser than Japan and India has always suffered from trade deficits. Infact the gap between exports and imports is high and it is only post 2000 that India has increased its degree of openness to trade. Foreign trade as a percentage of GDP increased from a mere 17 percent in 1991 to nearly 51 per-cent today. This also indicates that the economic reforms in India have been successful in integrating the Indian economy with the global economy (Table 6).

Table 6: India's Foreign Trade (US$ Billion)

Year	Exports	Imports	Trade Balance	Trade*
1980	11.48	17.29	-5.81	16.63
1991	24.73	24.73	0.00	17.23
2001	61.62	65.92	-4.30	26.41
2002	73.14	78.17	-5.02	29.97
2003	87.54	95.18	-7.64	30.90
2004	125.57	138.13	-12.55	37.94
2005	164.43	188.36	-23.94	43.38
2006	202.35	230.04	-27.69	47.44
2007	241.71	282.43	-40.71	45.88
2008	277.35	342.80	-65.46	50.70

Source: IFS 2009, Note: Exports, Imports and GDP all are in current prices, * per-cent of GDP

Another interesting aspect of external trade in India and Japan is that both the countries export quite a few similar items to the World. Japan's major items of export to the world include heavy engineering goods, nuclear reactors, iron and steel, light engineering goods etc. Though Japan is at the high end of technology and has some the best brands in consumer electronic items, they don't feature in the top 10 exports of Japan to the world (Table 7).

Table 7: Japan's Top 10 Exports to World at HS 96, 2 Digit Level (000 US$)

S No.	Product	Product Name	2008
1	87	Vehicles o/t railw/tramw roll-stock	172202918
2	84	Nuclear reactors, boilers, mchy & m	151595007
3	85	Electrical mchy equip parts thereof	138092115
4	72	Iron and steel.	39198739
5	90	Optical, photo, cine, meas, checkin	34316701
6	39	Plastics and articles thereof.	23888650
7	29	Organic chemicals.	20308474
8	89	Ships, boats and floating structure	19824122
9	27	Mineral fuels, oils & product of th	18776418
10	73	Articles of iron or steel.	13727325

Source: WITS Database

Since India undertook its economic reform measures with emphasis on boosting its exports and increasing its share in world exports, there has been a gradual change in the structure of the export basket of India. India which used to be famous for traditional items of exports like leather, tea and jute goods, today has made substantial progress and is one of the leading exporters of electronics and light engineering goods, textiles etc (Table 8).

Table 8: India's Top 10 Exports to World (000US$)

S No.	Product	Product Name	2008
1	27	Mineral fuels, oils & product of th	32868445
2	71	Natural/cultured pearls, prec stone	20175390
3	72	Iron and steel.	8198676
4	84	Nuclear reactors, boilers, mchy & m	8073081
5	29	Organic chemicals.	7881385
6	26	Ores, slag and ash.	6519472
7	85	Electrical mchy equip parts thereof	6250142
8	73	Articles of iron or steel.	6189306
9	87	Vehicles o/t railw/tramw roll-stock	6017589
10	62	Art of apparel & clothing access, n	5883940

Source: WITS Database

4.0 Competitiveness of India and Japan

4.1 International Revealed Comparative Advantages (IRCA)

In order to analyze the comparative advantage of Indian and Japanese exports in the world market, the study has computed the International Revealed Comparative Advantage (IRCA) for both India and Japan by using the Balassa index. This index measures the share of a commodity in the total exports of a given country, divided by the share of the same commodity in total world exports. The higher the ratio from one, the stronger is that

economy's comparative advantage in a particular commodity. Likewise, the lower the RCA from one, the weaker is that economy's comparative advantage in that commodity. When RCA equals one, the country's specialisation in a commodity is identical with the world specialisation in that commodity. The Balassa index is calculated as follows:

RCAij = (xij/Xit) / (xwj/Xwt)…….....……..…..... (1)

where xij and xwj are the values of country i's exports of product j and world's exports of product j and where Xit and Xwt refer to the country's total exports and world's total exports.

The following Table 9 summarises the comparative advantages that India and Japan have in the world market. The IRCA's for Japan and India are presented for Triennium Ending (TE) 2005 and TE 2008. It is evident from the table below that the IRCA of both India and Japan has remained stagnant during 2003 to 2008 and infact at the disaggregate levels of HS classification; the IRCA's of both Japan and India have declined. This also proves that many developing economies in Asia and Africa have become competitive and captured world markets but India and Japan have not made any substantial improvements in their trade sectors to increase their respective international competitiveness. For instance, in the TE 2005, at the 2 digit level of HS classification, India had IRCA in 40 commodities in contrast to Japan's 15. But in the TE 2008, there was only a marginal improvement and the numbers increased to 41 and 17 for India and Japan respectively. Further, at the 4 and 5 digit level, it is surprising that both countries have lost their IRCA in many commodities during TE 2005 to TE 2008.

However, some of the commodities having the highest IRCA for India include silk, lac, gums, resins, carpets, cotton, precious and semi-precious stones, textile fibers, tea, coffee, ores, sugar etc. These items have been India's top export items commanding a sizeable share in the world market. Similarly, some of the Japanese products that are highly competitive in the world market include ships, boats, vehicles of railway and tram roll stock, nuclear reactors, electrical machinery and parts, rubber and articles thereof, iron and steel, glass and glassware etc. **(see Annex A for details).**

4.2 Bilateral Revealed Comparative Advantages (BRCA)

Similar to IRCA, the study also computes RCA between two countries (RCA) i.e. India and Japan. Several authors have used the concept of Bilateral RCA (BRCA) in different ways using different formulae. However, in the context of this study, we use the modified version of Balassa's index called the Pasche formula (2002). For more information on other types of

Bilateral RCA see Utkulu and Seymen (2004), Ferto and Hubbard (2003) and Widgren (2002).

Bilateral revealed comparative advantage (BRCA) of an export *category* of India vis-à-vis a country, Japan has been defined as a ratio of "the share of India's export of this export *category* to Japan in India's total exports to Japan (numerator)" to "the share of India's exports of this *category* to the world in India's total exports to the world (denominator)".

While the RCA is a potent instrument in analysing relative comparisons of export performance of a country it may not reveal the "true" competitiveness if the exports of a commodity are high due to, say, export or other subsidies.

BRCA is a modified form of RCA looking at bi-lateral comparative advantage between countries. This index reflects the competitiveness of both countries in each other's market in comparison to the rest of the world. The RCA of India and Japan in each other's market can be calculated as follows:

India's RCA in Japan (RCAijk) = (xijk/Xitk) / (xwjk/Xwtk)…….....… (2)

Japan's RCA in India (RCAkji) = (xkji/Xkti) / (xwji/Xwti)……..... (3)

where xijk and Xitk are India's export of commodity j to Japan and total exports of India to

Japan respectively and xwjk and Xwtk are India's export of commodity j to World and India's total exports to World respectively. xkji and Xkti are Japan's export of commodity j to India and total exports of Japan to India respectively and xwji and Xwti are Japan's export of commodity j to World and Japan's total exports to World respectively.

Similar to IRCA, the BRCA of Japan in India has declined at all levels of HS classification. For instance, in TE 2008, at the 6 digit level, Japan's competitiveness in the Indian market declined from 892 products to 859 products. In the case of India, it has managed to retain its competitiveness in the Japanese market but there has no increase. This reveals that there is tremendous scope to increase trade and thereby competitiveness among the two countries **(See Annex B for details of BRCA).**

Table 9: Summary Statement of India and Japan's IRCA and BRCA

India and Japan's IRCA >= 1				
	TE 2005		**TE 2008**	
Classifications	**India**	**Japan**	**India**	**Japan**
HS 2 Digit	40	15	41	17

HS 4 Digit	385	304	377	290
HS 6 Digit	1524	1190	1486	1114
India and Japan's BRCA >= 1				
	TE 2005		**TE 2008**	
Classifications	**India**	**Japan**	**India**	**Japan**
HS 2 Digit	27	31	28	29
HS 4 Digit	190	280	194	253
HS 6 Digit	463	892	462	859

Source: WITS Database

4.2 Export Dynamic Products

Exports of products of a country with fast growth during a period of time are referred to as dynamic exports. It is important to identify such performers as these would eventually contribute significantly to the overall export earnings of a nation. Moreover, their dynamism indicates to the future opportunities in exports vis-à-vis other products. Their identification may prove valuable for any multilateral/bilateral trade negotiations with other trading partners. (http://www.worldbank.org/)

The export dynamic products can be recognized by setting an arbitrary cut-off for a list of products that are sorted according to their growth rates over give time period. The products with growth rates exceeding the cut-off are then classified as dynamic exports. In our analysis the benchmark to determine export dynamic commodities is the total export growth of India and Japan

We followed the following criteria for identifying India and Japan's dynamic export categories: matching with each year's growth rate of India and Japan's total exports during 2002-2008. The criterion is a *strict test* which identifies dynamic products as the ones which have their annual growth rate above India and Japan's total annual export growth rate in each of the eight years under consideration, viz. 2001 to 2008. If a particular commodity at any digit or level of classification exhibits growth that is higher than the annual growth of India and Japan's exports to the world in the same year, in each of the seven-year period, it would qualify as export dynamic commodity. Table 10 presents the summary of export dynamic commodities of India and Japan at 2, 4 and 6 digit levels. The export dynamic commodities are more at the 4 and 6 digit levels of classification **(See Annex C for detail)**.

Table 10: Summary Statement of India and Japan's Export Dynamic Commodities

Classifications	India	Japan
HS 2 Digit	0	1
HS 4 Digit	4	13
HS 6 Digit	10	23

Source: WITS Database

4.3 Export Specialization Index

Export Specialization Index of a product is computed as the "ratio of trade deficit/surplus to total trade" multiplied by 100. It can take values between -100 (when exports of a product are zero) to 100 (when imports of a product are zero). It takes a value of zero when exports are equal to imports. A higher positive value is indicative of relatively more exports than imports. A higher negative value is indicative of imports being more than exports. The study has attempted to compute Export Specialization Index of Japan and India not only with the World but also with each other for the year 2008. It is apparent from the analysis that there is large scale intra-industry trade between the two countries. However, the analysis indicates that in the year 2008, India exported more similar commodities to Japan and imported less of the same commodities from Japan **(See Annex D for details**).

5.0 Barriers to Trade in both the Countries

While keeping its commitments for the multilateral trading system, Japan has supported open regionalism and bilateral FTAs. The dynamism in Japanese approach to augment its existing trade is evident from its participation in the innumerable international organizations[1].

Japan exercises few non-tariff barriers like import prohibitions and quantitative restrictions for example on the imports of fish and silk items. Other NTBs include licensing requirements in order to ensure national security, safeguard consumer health and well being or preserve domestic plant and animal life (WRT, pp viii) namely the Sanitary and Phytosanitary Measures and the Technical barriers to trade (SPS and TBT).

5.1 SPS and TBT

[1] These include ADB, APEC, APT, ARF, ASEAN (dialogue partner), Australia Group, BIS, CE (observer), CERN (observer), CP, EAS, EBRD, FAO, G-5, G-7, G-8, G-10, IADB, IAEA, IBRD, ICAO, ICC, ICFTU, ICRM, IDA, IEA, IFAD, IFC, IFRCS, IHO, ILO, IMF, IMO, Interpol, IOC, IOM, IPU, ISO, ITU, LAIA, MIGA, NAM (guest), NEA, NSG, OAS (observer), OECD, OPCW, OSCE (partner), Paris Club, PCA, PIF (partner), SAARC (observer), UN, UN Security Council (temporary), UNCTAD, UNDOF, UNESCO, UNHCR, UNIDO, UNITAR, UNMOVIC, UNRWA, UPU, WCL, WCO, WFTU, WHO, WIPO, WMO, WTO.

The Indian producers have pointed out the use of SPS standards by Japan against imports of certain commodities from India. They protest that the permitted standards are dominated by the interests of the imposing country and restrict the democratic controlled over setting of these norms due to our ineffective participation in standard setting process. (http:// www.cid.harvard.edu/ cidtrade/issues/ spstbt.html). The impositions are presently beyond the technical competence and have not received a time grant to be able to conform to the SPS legislations. Moreover, transfer of the compliant technology ant fair/ reasonable cost has been missing while introducing these regulations. India's domestic producers are keen to understand the science and technology fundamental to the setting of these standards. This would help to appreciate the Japanese reservations while setting a base for further negotiations between various stakeholders. Japan's SPS standard are big barriers to Indian exports of poultry, meat, tuna and shrimp marine products, fruits like mangoes/ grapes (Chapter 2, pp10 of Indo-Japan Report). These manufacturers fell they are rendered uncompetitive and denied market access. For instance, despite India's initiatives to conform to the Japanese regulations, India's egg exports failed to pass the laboratory test in Japan, though the tests conducted in the Indian laboratories showed opposite results. This highlights the need for sharing and facilitating the underlying technology (ICRIER Working Paper 163, Debroy). Japan has notified SPS and TBT measures in the following products categories to the WTO: Foods and food additives produced by recombinant DNA techniques (SPS), Feed produced by recombinant DNA techniques (SPS), and all foods and beverages on sale for consumers (TBT).

5.2 Labeling, certification, testing

The Japanese industry has a marked support for testing, labeling and certification procedures. There have been instances of Japan's labeling and certification requirements in various sectors. These include an obligatory labeling for genetically modified foods in order to provide the consumers with information on a reliable and feasible manner. The government of Japan has undertaken some measures for food additives. Policy is also followed in regard to the non-quarantine pests, plant quarantine requirements and establishments of the pesticide residue standards. Japan also establishes maximum residue limits (MLRs) for veterinary drugs for safety evaluation of drugs. Also, Japan is advanced in terms of energy conservation mainly by the way of setting up standards for appliances that are highly energy efficient. For a rational use of energy the imports of energy using products have to be complaint with the regulatory performance standards, labeling requirements with a rating. The products

categories for such certification include refrigerators and freezers, constant type room air conditioners, variable speed type room air conditioners, incandescent lamps lighting equipment, fluorescent lamps lighting equipment and ballast for fluorescent lamps. It is argued that the labeling program is to encourage the consumers to purchase better grade appliances that are more energy efficient.[2]

Some of the above mention products/items such as drug and pharmaceuticals, machinery and instruments and electronic goods are exported by India to Japan. It is advisable, in the interest of the Indian producer and the Japanese consumer, that the issues for quality improvement and labeling are taken up in consultation with the applicant country viz. India before the India-Japan EPA comes into effect.

6.0 Trade in Services

The services sector is an important part of both the Japanese and Indian economies. It contributes over 50 per-cent of GDP in India and above two-thirds in Japan. Trade in services confers benefits not only to the services sector itself, but to both the primary and secondary production sectors as well. Expanded services trade accordingly stands to improve the living standards and international competitiveness of both India and Japan. There are severe data difficulties in documenting trade in services in a fashion that is consistent with the negotiating framework of the WTO. On the basis of presentations made by the two sides, though, it seems obvious that India is an increasingly successful provider of business services to a broad range of developed countries, while Japan is importing such services from other nations, notably China. Japan is a significant global exporter of services, often linked with overseas investment, yet the presence of Japanese services and firms in the Indian market is much less than in other parts of Asia. Demographic trends in India and Japan also suggest significant potential complementarities between the two services sectors well into the future. Table 11 presents the India's and Japan's share in world exports of commercial services.

Table 11: Exports of Commercial Services

		(US$ Millions)		Shares (per-cent)	
Year	**India**	**Japan**	**World**	**India**	**Japan**
2001	16799	64769	1484400	1.13	4.36
2002	19125	66054	1596400	1.20	4.14

[2] (http://www.unescap.org/esd/energy/publications/psec/guidebook-part-two-energy-labelling.htm) and Chapter 2 of India-Japan JSG report)

2003	23633	71784	1832400	1.29	3.92
2004	37931	89668	2220700	1.71	4.04
2005	52199	102071	2480300	2.10	4.12
2006	70926	115140	2816900	2.52	4.09
2007	87516	127060	3372400	2.60	3.77
2008	102648	146440	3777900	2.72	3.88
2009	86000	124000	3310000	2.60	3.75

Source: International Trade Statistics, 2009 and Press Release pr598

6.1 India-Japan Investment Relations

With growing economic strength, India has adapted its foreign policy to increase its global influence. Consequently, Indo-Japanese relations have undergone a paradigm shift and there is now an ongoing effort to build a strategic and global partnership between the two countries. According to a survey conducted by the Japan Bank for International Co-operation (JBIC) in 2008, India has become the most favoured investment destination for long-term Japanese investments. In the portion of the survey dealing with promising countries (including quantifications of countries viewed as promising for business expansion), China maintained the top position, but the number of companies viewing China as promising is declining. On the other hand, more companies are viewing India, Russia, Brazil, and other emerging countries as promising. The number of companies that view India as promising has increased to a level on par with China. The "growth potential of the local market" was listed as the top reason for India being a promising destination, a response revealing the hopes placed on the future growth of the Indian market. Listed third is the presence of "qualified human resources", for which India got relatively higher marks than other countries. The biggest issue for India remains its "underdeveloped infrastructure". Infrastructural improvements are believed to be making progress, but the demands of companies seeking to make forays into India also appear to be on the rise. India's robust economic growth in recent years has not gone unnoticed in Japan. Japan is now the sixth-largest FDI investor in to India. Cumulative FDI inflows from Japan touched $2,324 million during 2000-08. This includes investments in acquisition of existing shares, RBI's NRI schemes, stocks swapped and advance pending issue of shares etc. Though Japan has remained one of the top ten investors into India since the 1990's, its contribution to India's FDI inflow was only 4.29 per-cent of total FDI inflows between 1991 and 2007. Investment volumes have also fluctuated. FDI inflows from Japan increased during 2000-2002 but declined thereafter until 2006, only to rise again in 2007. In 2009-10, share of Japan in total FDI inflows of India stood at $ 4.57 billion (Table 12).

Table 12: FDI inflows into India from Japan ($ billion)

Year	Total FDI Inflows into India	FDI inflows from Japan	Share of Japan in total FDI inflows of India
2002-03	3.13	0.41	13.15
2003-04	2.63	0.08	2.96
2004-05	3.75	0.13	3.36
2005-06	5.55	0.21	3.75
2006-07	15.73	0.09	0.54
2007-08	24.58	0.82	3.32
2008-09	27.33	0.41	1.48
2009-10	25.89	1.18	4.57

Source: Department of Industrial Policy and Promotion, Government of India.

The decline in Japan's share in total FDI inflows into India can be attributed to several factors including the failure of Japanese companies to understand the Indian consumer. The constraints faced by Japanese investors in India are explained in the next section.

6.2 Constraints to Japanese Investment in India

As mentioned earlier, several countries have overtaken Japan in terms of their investment in the Indian market. According to a recent report submitted to the Department of Industry Policy and Promotion, the Japan Chamber of Commerce and Industry in India (JCCII) characterizes the Indian business environment as "tough". The document titled *"Suggestions for Government of India by JCCII"* contains detailed suggestions related to the following issues: land acquisition and utilization ; tax system ; infrastructure ; logistics distribution ; relaxation of FDI regulations ; visa application procedure ; inefficiency and lack of administrative transparency ; social security agreement ; intellectual property rights ; specific issues related to the financial sector and steel; and others including standardisation of bid requirements as per international standards. JCCII contends that these issues need to be settled to generate greater interest among Japanese investors. Japanese investors describe the tax system in India as too complicated and difficult to understand. India's land acquisition and utilisation procedures are also cited as a major obstacle to Japanese investment in India because they are both complicated and non-transparent. The failure to fulfill contractual obligations such as those relating to 14 power and water supply, drainage etc. in the case of industrial parks is another major issue. Japanese companies have also asked for simplification and speeding up of procedures for various permissions related to construction. In fact, language itself is a major barrier and restricts easy interaction between business

representatives of the two countries. There is lack of awareness and information about each other's market. What is noteworthy is that these factors have not constrained investment from other countries like South Korea. A comparison of Japanese and South Korean companies in India shows that Korean companies have dominated the Indian market for the last few years. Korean firms like Daewoo, Hyundai, LG, Samsung and Goldstar entered the Indian market aggressively after the mid-nineties. Japanese firms like Toshiba, Sanyo and Sharp lost out to the competition posed by Korean products. The only exception was Sony. Korean products appear to have fared well in the price-sensitive Indian market. One reason is that Korean companies have localised the production of components and parts and used local labour. Hyundai's success in undertaking large investments with high domestic content demonstrates that there is scope for FDI inflow in hi-tech industries, subject to scale economies (Nagaraj, 2003). India has been unable to attract the attention of Japanese multinational enterprises and benefit from the trade-FDI nexus as other countries have. According to Goldar and Ishigami (1999), the extent of trade flows between Japan and the host country has been found to be a more significant factor influencing FDI inflows from Japan than the size of the local market and degree of openness. The much greater level of trade union activity in India relative to East Asian economies also influenced the investment decisions of Japanese multinational enterprises. According to Kumar (2002), a high valuation of geographical proximity and cultural affinity by Japan's MNEs and the availability of quality infrastructure in the host countries helps explain the concentration of export-oriented investment by Japanese MNEs in the East Asian economies and their relative neglect of India. Overall, Japanese firms are deterred from investing heavily in India due to differences in business practices, environment and culture. Even the Indian corporate sector acknowledges the chronic hesitation among Japanese corporations to do business in India. Mandal, one of India's largest law firms has been quoted as saying that Japanese businesses have been slow in recognising the changes that have taken place in India's economic regime. After years of subdued ties following India's nuclear tests in 1998, two large deals last year appear to have set the stage for a renewed wave of Japanese investment in India. Japanese pharmaceutical major Daiichi Sankyo bought a 34.8 per-cent controlling stake in India's largest pharmaceutical firm, Ranbaxy Laboratories. The deal, announced in June 2009, valued Ranbaxy at $8.5 billion. A few months later, Japanese telecom giant NTT DoCoMo bought a 26 per-cent stake in Tata Teleservices Ltd. (TTSL). However, Japanese business would do better if they established 100 per-cent subsidiaries that tap the local market for their work force, including managerial requirements than setting up joint ventures with local Indian partners.10

7.0 Areas of Future Cooperation

As discussed in previous sections, there are complementarities between the two countries in terms of economic structures and future outlook. Any future agreement should not only focus on increasing trade and investment flows between the two economies by removing the existing barriers on both sides but should also emphasise co-operation and technical collaboration in various sectors. Co-operation is needed especially in those sectors in which trade complementarity is high. And this should be done through both government and private initiatives. Japan and India could collaborate in the bio-technology, nano technology, information technology, automobile, aerospace, textiles, leather, marine product and other industries. India's fast expanding economy will create a large demand for energy. There are many opportunities for collaboration between Indian and Japanese companies in the area of energy efficient and environment friendly technologies. The agreement is expected to increase exchanges in IT, ITES, financial services, construction, transportation and health-care services. Other features of the agreement include: work permit for three years to Japanese workers from the automobile industry. Japan will benefit in the area of auto-parts, export of high grade steel and high technology consumer items to cater to the growing middle class in India.

7.1 Gains from EPA

The EPA is expected to contribute to the stable industrial structure that will help small and medium companies with high-end technology and open management expand into the global market. Given the differences in economic structure between Japan and India, the benefits of these changes will probably outweigh the risks of increased competition from one another's countries. The agreement is also a part of India's "Look East" policy followed to reduce dependency on western markets and provide an alternative centre of international production to Japan after China. Bilateral relations will be further solidified and the EPA would send signals to the world that the two countries are committed to free trade and are against protectionism. Moreover, the EPA is expected to not only help Japan effectively compete with South Korea in the Indian markets but also given the growing protests against using Japanese products in China, India-Japan EPA will enhance export opportunities for Japan. The EPA is expected to give a big boost to Japanese auto parts manufacturers who can export duty free to India. It is infact the Japanese auto sector which has lobbied hard for this agreement. The agreement will also enhance competition in the area of generic drugs and help India in expanding its role as a global centre for manufacturing. Overall, the India-Japan

EPA is a step in the right direction given the slowdown of world trade. The reduction and abolitions of tariffs through the EPA will result in an increase in trade and investment relations between two of the largest economies in Asia.

8.0 Conclusion

The conclusion of the India-Japan Economic Partnership Agreement (EPA) needs to be expedited to tap the huge potential that exists for further development, since both bilateral trade and investment are below potential considering the economic size of the two countries. Trade and investment values are also low in comparison to other major economies. Trade and investment flows from Japan to India are only 3 per-cent of the volume of trade and investment from Japan to China. Overall, India-Japan EPA is a major step in enhancing bilateral relations and also to promote the economic rise of Asia. While in trade it would be beneficial to both the countries and particularly for India, Japan would find it easier to invest in India and cater to the huge domestic market as well as use it as a manufacturing hub using cheap labour. Further, mutual collaboration in many important sectors such as energy, research and development etc would be beneficial for both the economies. This signing of the EPA would bring both the countries closer and help in concluding the agreement on civil nuclear technology. India's ambition to produce clean nuclear energy in future depends heavily on Japan as its manufacturers provide essential parts of nuclear reactors to USA, France and other nuclear equipment suppliers group. The improved cooperation due to EPA would open up new opportunities to both countries in every sphere that is essential for harmonious growth of Asia, which is the growth centre of the world in the coming century.

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Annex A

Table A.1: Commodities having IRCA greater than One for India

S No.	Product	Product Name	TE 2002	TE 2005	TE 2008
1	50	Silk.	16.75	15.40	10.06
2	13	Lac; gums, resins & other vegetable	15.19	11.21	9.26
3	57	Carpets and other textile floor co	10.12	8.84	8.22
4	52	Cotton.	10.12	6.77	8.15
5	71	Natural/cultured pearls, prec stone	9.87	9.61	6.45
6	67	Prepr feathers & down; arti flower;	3.88	4.81	5.35
7	63	Other made up textile articles; set	8.67	7.26	5.31
8	53	Other vegetable textile fibres; pap	6.31	5.22	4.76
9	14	Vegetable plaiting materials; veget	6.43	5.08	4.71
10	09	Coffee, tea, matï and spices.	8.29	5.63	4.70
11	26	Ores, slag and ash.	3.29	5.78	4.30
12	23	Residues & waste from the food indu	2.89	2.83	3.83
13	55	Man-made staple fibres.	2.94	3.37	3.60
14	42	Articles of leather; saddlery/harne	6.25	4.40	3.25
15	17	Sugars and sugar confectionery.	2.04	1.17	3.23
16	10	Cereals	3.90	4.43	3.15
17	62	Art of apparel & clothing access, n	4.86	3.52	3.14
18	25	Salt; sulphur; earth & ston; plaste	3.69	3.65	2.99
19	54	Man-made filaments.	2.55	2.97	2.87
20	41	Raw hides and skins (other than fu	2.86	2.72	2.61
21	79	Zinc and articles thereof.	0.15	0.46	2.49
22	61	Art of apparel & clothing access,	3.41	2.98	2.39
23	97	Works of art, collectors' pieces an	0.06	4.47	2.35
24	68	Art of stone, plaster, cement, asbe	2.44	2.13	2.07
25	03	Fish & crustacean, mollusc & other	4.34	2.79	1.97
26	29	Organic chemicals.	1.49	1.57	1.81
27	32	Tanning/dyeing extract; tannins &	1.97	1.67	1.70
28	74	Copper and articles thereof.	0.80	1.63	1.69
29	64	Footwear, gaiters and the like; par	2.03	1.74	1.63
30	73	Articles of iron or steel.	1.48	1.59	1.57
31	24	Tobacco and manufactured tobacco su	1.22	1.27	1.47
32	36	Explosives; pyrotechnic prod; match	1.03	1.09	1.45
33	08	Edible fruit and nuts; peel of citr	2.73	1.82	1.45
34	12	Oil seed, oleagi fruits; miscell gr	1.93	1.52	1.42
35	58	Special woven fab; tufted tex fab;	3.36	1.32	1.38
36	72	Iron and steel.	1.32	1.64	1.35
37	07	Edible vegetables and certain roots	1.55	1.44	1.34
38	27	Mineral fuels, oils & product of th	0.47	0.75	1.21
39	89	Ships, boats and floating structure	0.15	0.61	1.16
40	82	Tool, implement, cutlery, spoon & f	1.13	1.17	1.02
41	30	Pharmaceutical products.	1.19	0.97	1.01

Source: WITS Database

Table A.2: Commodities having IRCA greater than One for Japan

S No.	Product	Product Name	TE 2002	TE 2005	TE 2008
1	37	Photographic or cinematographic goo	3.08	3.62	4.48
2	89	Ships, boats and floating structure	2.98	2.89	2.77
3	87	Vehicles o/t railw/tramw roll-stock	2.12	2.22	2.55
4	92	Musical instruments; parts and acce	2.74	2.38	2.33
5	81	Other base metals; cermets; article	1.31	1.45	1.64
6	90	Optical, photo, cine, meas, checkin	2.09	1.94	1.62
7	38	Miscellaneous chemical products.	1.13	1.29	1.58
8	85	Electrical mchy equip parts thereof	1.62	1.64	1.54
9	84	Nuclear reactors, boilers, mchy & m	1.41	1.45	1.48
10	40	Rubber and articles thereof.	1.44	1.42	1.40
11	96	Miscellaneous manufactured articles	1.82	1.54	1.39
12	72	Iron and steel.	1.46	1.41	1.38
13	70	Glass and glassware.	1.11	1.23	1.34
14	82	Tool, implement, cutlery, spoon & f	1.19	1.28	1.24
15	29	Organic chemicals.	1.03	1.06	1.12
16	32	Tanning/dyeing extract; tannins &	0.85	0.94	1.08
17	54	Man-made filaments.	1.11	0.98	1.04

Source: WITS Database

Annex B

Table B.1: Commodities having BRCA greater than One in India

S No.	Product	Product Name	TE 2002	TE 2005	TE 2008
1	05	Products of animal origin, nes or	11.41	15.53	14.96
2	06	Live tree & other plant; bulb, root	2.84	4.83	11.01
3	03	Fish & crustacean, mollusc & other	8.01	6.94	7.30
4	14	Vegetable plaiting materials; veget	1.77	2.82	6.99
5	16	Prep of meat, fish or crustaceans,	6.04	7.39	6.78
6	23	Residues & waste from the food indu	1.37	3.36	5.41
7	59	Impregnated, coated, cover/laminate	0.69	2.10	4.46
8	92	Musical instruments; parts and acce	1.80	2.37	3.66
9	75	Nickel and articles thereof.	0.12	-	3.64
10	15	Animal/veg fats & oils & their clea	2.78	2.95	3.46
11	26	Ores, slag and ash.	7.53	4.84	2.90
12	81	Other base metals; cermets; article	0.27	1.64	2.83
13	35	Albuminoidal subs; modified starche	1.75	1.80	2.27
14	90	Optical, photo, cine, meas, checkin	2.33	2.50	2.23
15	13	Lac; gums, resins & other vegetable	1.74	3.25	2.07
16	33	Essential oils & resinoids; perf,	0.81	1.29	1.78
17	08	Edible fruit and nuts; peel of citr	1.11	1.42	1.57
18	04	Dairy prod; birds' eggs; natural ho	1.75	2.32	1.50
19	56	Wadding, felt & nonwoven; yarns; tw	3.54	4.30	1.47
20	38	Miscellaneous chemical products.	0.56	1.07	1.38
21	27	Mineral fuels, oils & product of th	-	0.72	1.21
22	32	Tanning/dyeing extract; tannins &	0.62	0.84	1.17
23	72	Iron and steel.	0.60	0.45	1.15
24	53	Other vegetable textile fibres; pap	1.08	1.48	1.14
25	28	Inorgn chem; compds of prec mtl, r	0.62	1.05	1.12
26	71	Natural/cultured pearls, prec stone	1.36	1.30	1.10
27	51	Wool, fine/coarse animal hair, hors	1.16	1.25	1.03
28	09	Coffee, tea, matï and spices.	0.87	1.41	1.03

Source: WITS Database

Table B.2: Commodities having BRCA greater than One in Japan

S No.	Product	Product Name	TE 2002	TE 2005	TE 2008
1	82	Tool, implement, cutlery, spoon & f	3.79	2.14	2.75
2	27	Mineral fuels, oils & product of th	4.72	4.74	2.68
3	73	Articles of iron or steel.	2.32	2.08	2.57
4	34	Soap, organic surface-active agents	3.44	2.74	2.53
5	25	Salt; sulphur; earth & ston; plaste	2.20	2.62	2.47
6	12	Oil seed, oleagi fruits; miscell gr	4.46	3.00	2.47
7	63	Other made up textile articles; set	2.64	4.72	2.36
8	37	Photographic or cinematographic goo	4.22	2.95	2.24

9	72	Iron and steel.	2.39	1.99	2.04
10	54	Man-made filaments.	1.52	1.70	1.91
11	84	Nuclear reactors, boilers, mchy & m	1.36	1.55	1.67
12	79	Zinc and articles thereof.	1.64	1.05	1.57
13	29	Organic chemicals.	2.48	2.03	1.45
14	49	Printed books, newspapers, pictures	1.80	1.35	1.42
15	68	Art of stone, plaster, cement, asbe	1.63	1.82	1.42
16	57	Carpets and other textile floor co	-	2.09	1.32
17	35	Albuminoidal subs; modified starche	1.94	1.64	1.31
18	94	Furniture; bedding, mattress, matt	3.25	3.16	1.27
19	32	Tanning/dyeing extract; tannins &	1.65	2.06	1.26
20	56	Wadding, felt & nonwoven; yarns; tw	0.67	1.00	1.26
21	78	Lead and articles thereof.	1.69	0.45	1.20
22	28	Inorgn chem; compds of prec mtl, r	2.05	1.25	1.14
23	40	Rubber and articles thereof.	2.28	1.53	1.12
24	76	Aluminium and articles thereof.	1.18	1.89	1.10
25	83	Miscellaneous articles of base meta	0.99	1.04	1.09
26	96	Miscellaneous manufactured articles	1.47	1.36	1.06
27	90	Optical, photo, cine, meas, checkin	0.94	1.00	1.05
28	39	Plastics and articles thereof.	1.22	1.14	1.02
29	55	Man-made staple fibres.	2.35	1.58	1.01

Source: WITS Database

Annex C

Table C.1: Export Dynamic Commodities of Japan (2 Digit Level)

S. No.	Product Code	Product Name
1	47	Pulp of wood/of other fibrous cellu

Source: WITS Database

Table C.2: Export Dynamic Commodities of India (4 Digit Level)

S. No.	Product Code	Product Name
1	0401	Milk and cream, not concentrated no
2	3211	Prepared driers.
3	8431	Parts suitable for use solely or pr
4	8481	Taps, cocks, valves and similar app

Source: WITS Database

Table C.3: Export Dynamic Commodities of Japan (4 Digit Level)

S. No.	Product Code	Product Name
1	0806	Grapes, fresh or dried.
2	2707	Oils and other products of the dist
3	3906	Acrylic polymers in primary forms.
4	3915	Waste, parings and scrap, of plasti
5	3920	Other plates, sheets, film, foil an
6	4908	Transfers (decalcomanias).
7	7106	Silver (including silver plated wit
8	7115	Other articles of precious metal or
9	7204	Ferrous waste and scrap; remelting
10	8426	Ships' derricks; cranes, including
11	8429	Self-propelled bulldozers, angledoz
12	8430	Other moving, grading, levelling, s
13	8431	Parts suitable for use solely or pr

Source: WITS Database

Table C.4: Export Dynamic Commodities of India (6 Digit Level)

S. No.	Product Code	Product Name
1	040610	Fresh (unripened or uncured) cheese
2	320619	Pigments and preparations based on
3	321100	Prepared driers.
4	380890	Other
5	401199	Other
6	410129	Other hides and skins of bovine ani
7	551229	Containing 85 per-cent or more by weight o
8	630210	Bed linen, knitted or crocheted
9	841480	Other
10	848180	Other appliances

Source: WITS Database

Table C.5: Export Dynamic Commodities of Japan (6 Digit Level)

S. No.	Product	Product Name
1	080610	Fresh
2	200930	Juice of any other single citrus fr
3	270730	Xylole
4	300510	Adhesive dressings and other article
5	380110	Artificial graphite
6	390690	Other
7	390799	Other polyesters :-- Other
8	391510	Of polymers of ethylene
9	391520	Of polymers of styrene
10	391590	Of other plastics
11	470790	Other, including unsorted waste and
12	490890	Other
13	711590	Other
14	720449	Other waste and scrap :-- Other
15	840682	Other turbines :-- Of an output not
16	842199	Parts :-- Other
17	842649	Other machinery, self-propelled :--
18	842952	Mechanical shovels, excavators and
19	843149	Of machinery of heading No. 84.26,
20	843230	Seeders, planters and transplanters
21	870410	Dumpers designed for off-highway us
22	870422	Other, with compression-ignition in
23	902129	Artificial teeth and dental fitting

Source: WITS Database

Annex D

Table D.1: India's Export Specialization Index with World

Product	Product Name	2008
47	Pulp of wood/of other fibrous cellu	-99.6
31	Fertilisers.	-99.3
75	Nickel and articles thereof.	-90.2
57	Carpets and other textile floor co	91.0
23	Residues & waste from the food indu	91.2
17	Sugars and sugar confectionery.	91.4
04	Dairy prod; birds' eggs; natural ho	91.7
03	Fish & crustacean, mollusc & other	91.8
24	Tobacco and manufactured tobacco su	95.0
62	Art of apparel & clothing access, n	97.1
16	Prep of meat, fish or crustaceans,	97.2
61	Art of apparel & clothing access,	97.7
02	Meat and edible meat offal	99.9

Source: WITS Database

Table D.2: Export Specialization Index with Japan

Product	Product Name	2008
37	Photographic or cinematographic goo	-99.9
79	Zinc and articles thereof.	-99.6
91	Clocks and watches and parts thereo	-99.6
89	Ships, boats and floating structure	-99.6
86	Railw/tramw locom, rolling-stock &	-99.1
48	Paper & paperboard; art of paper pu	-98.4
80	Tin and articles thereof.	-98.4
31	Fertilisers.	-97.9
34	Soap, organic surface-active agents	-96.3
82	Tool, implement, cutlery, spoon & f	-95.5
84	Nuclear reactors, boilers, mchy & m	-92.9
39	Plastics and articles thereof.	-92.4
40	Rubber and articles thereof.	-91.7
87	Vehicles o/t railw/tramw roll-stock	-91.6
60	Knitted or crocheted fabrics.	-91.5
24	Tobacco and manufactured tobacco su	91.9
20	Prep of vegetable, fruit, nuts or o	92.0
52	Cotton.	92.3
42	Articles of leather; saddlery/harne	92.9
97	Works of art, collectors' pieces an	93.0
57	Carpets and other textile floor co	95.2
64	Footwear, gaiters and the like; par	96.1
50	Silk.	96.4

15	Animal/veg fats & oils & their clea	98.6
61	Art of apparel & clothing access,	99.0
13	Lac; gums, resins & other vegetable	99.1
26	Ores, slag and ash.	99.2
23	Residues & waste from the food indu	99.5
03	Fish & crustacean, mollusc & other	99.6
53	Other vegetable textile fibres; pap	99.8
16	Prep of meat, fish or crustaceans,	99.8
62	Art of apparel & clothing access, n	99.9
06	Live tree & other plant; bulb, root	99.9
10	Cereals	99.9
04	Dairy prod; birds' eggs; natural ho	99.9
05	Products of animal origin, nes or	100.0
09	Coffee, tea, matï and spices.	100.0
08	Edible fruit and nuts; peel of citr	100.0

Source: WITS Database

Table D.3: Japan's Export Specialization Index with World

Product	Product Name	2008
10	Cereals	-99.6
66	Umbrellas, walking-sticks, seat-sti	-99.3
26	Ores, slag and ash.	-98.9
46	Manufactures of straw, esparto/othe	-98.9
02	Meat and edible meat offal	-98.7
43	Furskins and artificial fur; manuf	-98.5
44	Wood and articles of wood; wood ch	-98.0
42	Articles of leather; saddlery/harne	-97.7
67	Prepr feathers & down; arti flower;	-97.3
04	Dairy prod; birds' eggs; natural ho	-97.1
61	Art of apparel & clothing access,	-96.8
14	Vegetable plaiting materials; veget	-96.5
64	Footwear, gaiters and the like; par	-96.5
62	Art of apparel & clothing access, n	-96.4
20	Prep of vegetable, fruit, nuts or o	-96.3
07	Edible vegetables and certain roots	-95.4
12	Oil seed, oleagi fruits; miscell gr	-95.4
09	Coffee, tea, matï and spices.	-94.7
23	Residues & waste from the food indu	-94.0
08	Edible fruit and nuts; peel of citr	-92.1
05	Products of animal origin, nes or	-90.8
87	Vehicles o/t railw/tramw roll-stock	82.9
37	Photographic or cinematographic goo	84.8
89	Ships, boats and floating structure	94.6

Source: WITS Database

Table D.4: Japan's Export Specialization Index with India

Product	Product Name	2008
10	Cereals	-100.0
42	Articles of leather; saddlery/harne	-99.8
03	Fish & crustacean, mollusc & other	-99.8
62	Art of apparel & clothing access, n	-99.8
23	Residues & waste from the food indu	-99.8
53	Other vegetable textile fibres; pap	-99.7
26	Ores, slag and ash.	-99.7
61	Art of apparel & clothing access,	-99.7
13	Lac; gums, resins & other vegetable	-99.6
64	Footwear, gaiters and the like; par	-99.4
20	Prep of vegetable, fruit, nuts or o	-99.4
97	Works of art, collectors' pieces an	-98.6
15	Animal/veg fats & oils & their clea	-98.0
57	Carpets and other textile floor co	-97.0
50	Silk.	-96.9
65	Headgear and parts thereof.	-96.2
05	Products of animal origin, nes or	-95.8
16	Prep of meat, fish or crustaceans,	-95.0
52	Cotton.	-94.0
71	Natural/cultured pearls, prec stone	-93.4
73	Articles of iron or steel.	90.4
39	Plastics and articles thereof.	93.6
49	Printed books, newspapers, pictures	95.3
48	Paper & paperboard; art of paper pu	96.5
34	Soap, organic surface-active agents	97.3
91	Clocks and watches and parts thereo	99.1
88	Aircraft, spacecraft, and parts the	99.1
60	Knitted or crocheted fabrics.	99.5
79	Zinc and articles thereof.	99.6
37	Photographic or cinematographic goo	100.0

Source: WITS Database