# INDIA-JAPAN TRADE RELATIONS: COMPETITIVENESS, SPECIALIZATION AND DYNAMISM

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#### ABSTRACT

Economic relations between India and Japan have improved in the recent past, and signing of the India-Japan Comprehensive Economic partnership Agreement (CEPA) has broadened the scope for bilateral relationship. The present paper is an attempt to explore the competitive sectors of India-Japan trade with the help of IRCA, BRCA, export specialization and dynamism. It is found that India has competitiveness in sectors i.e. lac, gums, resins, carpets, cotton, precious and semi-precious stones, textile fibers, silk, man-made filaments, tea, coffee, ores, sugar, organic chemicals, etc. The Japanese products that are highly competitive in the world markets include- photographic, ships, boats, musical instrument, vehicles of railway and tram roll stock, nuclear reactors, electrical machinery and parts, etc. The commodities having high bilateral comparative advantage for India include animal husbandry, musical instruments, nickel, ores & slag, etc., whereas for Japan, the sectors are tool, implement cutlery, soap, iron & steel, nuclear reactors, rubber, etc. India's dynamic commodities include milk and cream; prepared driers; meat and edible meat offal; fish & crustacean; beverages, spirits and vinegar; knitted or crocheted fabrics; etc. The dynamic commodities of Japan are pulp of wood/of other fibrous;grapes; silver; precious metal; products of animal origin; live tree & other plant; rubber; art of stone, plaster, cement; etc.

Key words: Regional trading agreements, Bilateral trade, Competitiveness

#### 1. Introduction

In the globalization era, free flow of trade has emerged as an important dimension for addressing the multilateralism issue. The most recent development at Doha round of WTO at Bali has invoked the new dimensions of trade relations. For a past decade, the WTO could not reach to a consensus level, but the very recent round has seriously pondered over the three issues viz. trade facilitation, food subsidy and trade promotion for least developed countries. The theoretical explanation of importance of trade in economic growth goes back to the endogenous theory, where trade has emerged as one of the peripheral factor for economic growth along with other primitive inputs. The gains from trade have been well considered in different trade theories starting from absolute advantage theory to modern theory of trade. All the theories have well identified the basis and nature for trade, and gains from trade. In the recent, modern trade theory has highlighted the role of comparative advantage (inter-industry trade) as well as production differentiation (intra-industry trade) as a basis for pattern of trade. Parallel, the journey of world economies moving from preferential trade agreements (PTAs) to free trade agreements (FTAs), to comprehensive economic partnership agreements in the recent past has invited serious attentions of the policy makers and academicians. In the due process the setting up the economic and political institutions like WTO aimed to promote the multilateralism. This very objective of the WTO has not been realized on the full swing, but partially the promotion of bilateral and regional trade has gained meaningful experiences in the World economies. Numerous steps have been taken by different economies in terms of enhancing their bilateral trade, regional and multilateral trade.

India has moved actively for various negotiations in the recent past like India-Singapore Comprehensive Economic cooperation Agreement (CECA) in 2005, India-Korea CEPA in 2010 and India-Malaysia CECA in 2011.<sup>1</sup> India concluded the Comprehensive Economic Partnership Agreement (CEPA) deal with Japan in February 2011. The main aim under this negotiation is to eliminate tariffs on 90 percent of Japanese exports to India and 97 percent of imports from India until 2021. Japan and India are two leading economies in Asia and share too much commonality in their economic systems as the sizes of two economies are largely dominated by services sector. The shares of service sector in Japanese and India economy are observed 70 and 55 percent, respectively.

Japan has appeared as one of the best donor country for India by providing substantial amount of official development assistance (ODA), and remained committed even during the period of the global economic downturn. More importantly, the Japanese ODA model has been unique in the sense that it tried to develop the infrastructure base of India, keeping in view that the sound infrastructure will attract the domestic and foreign investment, from both sectors public as well as private. This in turn can increase the economic growth, and the fruits of high growth can be channelized for welfare creation through effective redistribution system. By this process Japan is trying to utilize its ODA for addressing the development challenge of India. A recent power packed forum, "Indo-Japan Dialogue on Strategic Collaboration" held in February of financial year 2013-13 at World Trade Centre in Manesar. Amongst the larger gamut of infrastructural discussions, emphasis of the deliberation was on leveraging business opportunities in the "Key Sectors" of the economy particularly Infrastructure.<sup>2</sup> The Japan-India Foreign Ministers' Strategic Dialogue which is continuous since 2007, and the very recent dialogue in March 2013 has further enlarged the scope of bilateral relations between the two countries. These relations include political and security issues, exchange programme; economic relations and cooperation and civil nuclear energy cooperation.3 These initiatives broaden the horizon of bilateral relationships between the two countries, and this phenomenon gives motivation for exploring the potential competitiveness of each country. The present study, being empirical in nature, highlights the key sectors which can be utilized for strengthening the relationship in more efficient manner.

The volume of the two-way trade has steadily increased over years and reached a peak of over \$ 17.9 billion in 2011. But, 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. Interestingly, few sectors i.e. machinery, nuclear reactors; iron & steel; organic chemicals, etc. are characterized for intra-industry trade may be the result of product differentiation as mentioned in the modern trade theory. Further, in recent times, 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.<sup>4</sup>

In the global slowdown environment, world economies are exploring every possible avenue for maintaining the economic recovery. In this backdrop, a paper on Indo-Japanese trade relations 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. The present study tries to explore the competitive sectors (international as well as bilateral) of India's and Japan's exports. Also, it aims to highlight the export diversification, dynamism and export specialization along with complementary sectors of bilateral trade. The rest of the paper is organized as follows. Section 2 presents methodology. Section 3 presents the results and discusses the international competitiveness of Japan and India and. Section 4 discusses the trade barriers between India and Japan. Section 5 concludes the whole discussion.

#### 2. Methodology

The present study is based on secondary data and utilizes simple index computational approach for achieving the above stated objectives. Major data sources are Commodity Trade (COMTRADE) database of the United Nations, WITS interface of World Bank. The time period of the study is twelve years, viz. 2000-2011. The analysis is based on HS nomenclature 1996 at 2, 4 and 6 digits classification.

#### 2.1 International Revealed Comparative Advantages (IRCA)

In order to analyze the comparative advantage of Indian and

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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 specialization in a commodity is identical with the world specialization in that commodity.

## 2.2 Bilateral Revealed Comparative Advantages (BRCA)

Similar to IRCA, the study also computes RCA between two countries (RCA) i.e. India and Japan. 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)". BRCA is a modified form of RCA mainly used to gauge the bi-lateral comparative advantage between countries.

#### 2.3 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 and 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 given 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, respectively. The following criteria has been utilized for identifying India and Japan's dynamic export categories: matching with each year's growth rate of India and Japan's total exports during two periods 2001-2008 and 2009-11 with the growth rate of commodities for same periods. Later period gives the better understanding of dynamic commodities amidst the global financial crisis and sovereign debt crisis. Also, the study utilizes various other trade indices like export diversification, concentration, specialization and intra-industry trade to understand the trade potentials between two countries.

#### 3. **Results and Interpretation**

#### 3.1 Competitiveness of Japan and India

The following Table 1 summarizes 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, TE 2008 and TE 2011 (average of 2009, 10, 11). It is evident from the table below that the IRCA of both India and Japan has remained stagnant during 2003 to 2011, and in-fact at the more 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 2011, the respective numbers are there 38 and 21. Further, at the 4 and 6 digits level, it is surprising that both the countries have lost their IRCA in many commodities during TE 2005 to TE 2008. India faced a continuous decline in its competitive sectors in TE 2011 whereas Japan showed a surge. However, some of the commodities having the highest IRCA for India include lac, gums, resins, carpets, cotton, precious and semi-precious stones, textile fibers, silk, man-made filaments, tea, coffee, ores, sugar, organic chemicals, etc. These items have been India's top export items commanding a sizeable share in the world market. A glance of IRCA for different time periods indicates that the intensities of competitiveness for majority of these sectors have declined in recent years compared to early years of 2000s. This outcome indicates that India might have preferred to diversify its trade basket, and in the due process the other emerging economies like China and Brazil could have enhanced their competitiveness in these sectors. Similarly, some of the Japanese products that are highly competitive in the world market include photographic, ships, boats, musical instrument, 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 tables A.1, A.2 in Annex A in the end for details). Over the period of time, Japanese commodities have been able to manage the same level of competitiveness. Based on this information, it is argued that Japan's top IRCA sectors are more robust and can be utilized further to strengthen the trade potentialities. Here, gearing of policy towards the top IRCA sectors of India and Japan may add to the trade performance of both countries in the international market.

In contrast to IRCA, the BRCA of Japan in India has declined at all levels of HS classification. For instance, in TE 2011, at the 6 digit level, Japan's competitiveness in the Indian market declined from 892 products to 841 products. In case of India, it has managed to retain its competitiveness in the Japanese market but the substantial increase is noticed at 4 and 6 digits level. This information may be utilized for further exploration of bilateral trade for competitive sectors. The commodities having high bilateral comparative advantage for India include animal husbandry, musical instruments, nickel, ores & slag, etc., whereas for Japan the sectors are tool, implement, cutlery, soap, iron & steel, nuclear reactors, rubber, etc. (See tables A.3, A.4 for details of BRCA). The sectors securing top position in total exports, and having high comparative advantage (international as well as bilateral) are considered

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as most robust sectors of the economy in terms of trade. And paying attention to these sectors may strengthen the bilateral trade between India and Japan. The enhanced trade relations may lead to better understanding of each other's market and can contribute substantially in the recovery of both the economies from slowdown. Japan has faced a series natural disaster apart from the global slowdown. Presently, Japan is facing problems of fiscal imbalance, deflation and low economic growth. Recently, Japanese economy under Abenomics tries to address these problems, and in this environment, enhancing the trade ties with India in leading sectors may supplement to the existing efforts to give boost to the economic growth.

#### 3.2 Export Dynamism

Table 2 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. For period 2001-08 at two digits level, India could not report any commodity as dynamic one, however six commodities i.e. meat and edible meat offal; fish & crustacean & other, Beverages, spirits and vinegar; knitted or crocheted fabrics; etc. are found dynamic for period 2009-11. The dynamic commodities of Japan for two periods are pulp of wood/of other fibrous, and products of animal origin; live tree & other plant; bulb, root; rubber and articles thereof; art of stone, plaster, cement; optical, photo, cine; clocks and watches and parts thereof; etc., respectively (See Annex B for detail).

## 3.3 Exports Diversification

The sectoral Hirschmann index is used to measure the diversified nature of a country's exports. It tells the degree to which a region or country's exports are dispersed across different economic activities. Over time, decreases in the index may be used to indicate the broadening of the export base. Table 3 suggests that Japanese exports have exhibited the diversification in their export basket in recent years as compared to the level of early 2000s, whereas, in case of India, the export basket has relatively experienced less diversification in comparison to its past years.

#### 3.4. Export Concentration

Herfindal index reflects the degree to which a region or country's exports are dispersed across different economic activities in comparison to the world average. Present study utilized the same index for the sectoral concentration. The index value is further normalized where Normalized Herfindal Index (NHI) index below 0.01 (or 100) indicates a highly competitive index. A NHI index below 0.15 (or 1,500) indicates an un-concentrated index. A NHI index between 0.15 to 0.25 (or 1,500 to 2,500) indicates moderate concentration and above 0.25 (above 2,500) indicates high concentration. India's and

Table 1: Summary Statement of mola and Japan's IKCA and BKCA	Table 1: Sum	mary Statemer	nt of India and J	Japan's IRCA an	d BRCA
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			India and	l Japan's IRC.	A>=1			
	TE 2	2002	TE 2005		TE 2	008	TE 2011	
Classifications	India	Japan	India	Japan	India	Japan	India	Japan
HS 2 Digit	41	18	40	15	41	17	38	21
HS 4 Digit	372	307	385	304	377	290	324	312
HS 6 Digit	1452	1213	1524	1190	1486	1114	1245	1161
		1	India and	Japan's BRC	A>=1			
	<b>TE 2</b>	002	TE 2	005	TE 2008		TE 2011	
Classifications	India	Japan	India	Japan	India	Japan	India	Japan
HS 2 Digit	20	30	27	31	28	29	29	21
HS 4 Digit	150	289	190	280	194	253	202	273
HS 6 Digit	354	858	463	892	462	859	505	. 841

Source: Author's Computations

# Table 2: Summary Statement of India and Japan's Export Dynamic Commodities

			Ia	2012	
		India	Japan		
Classification	0001.00	2009-11	2001-08	2009-11	
HS2D:	2001-08	6	1	10	
US 4	0	0	13	121	
HS 4 Digit	4	54	<u>n</u>	400	
HS 6 Digit	10	272	2	100	

Source: Author's Computations

	India							
Classification	TE 2002	TE 2005	TE 2006	TE 2007	TE 2008	TE 2009	TE 2010	TE 2011
2 Digits Level	0.2300	0.2326	0.2339	0.2390	0.2433	0.2507	0.2550	0.2635
4 Digits Level	0.1677	0.1694	0.1736	0.1853	0.1950	0.1952	0.1995	0.2056
6 Digits Level	0.1608	0.1623	0.1664	0.1788	0.1895	0.1899	0.1945	0.2008
		onoze		Japan				
2 Digits Level	0.3824	0.3748	0.3695	0.3653	0.3610	0.3483	0.3398	0.3328
4 Digits Level	0.1688	0.1697	0.1687	0.1728	0.1758	0.1664	0.1586	0.1488
6 Digits Level	0.1098	0.1032	0.1018	0.1050	0.1073	0.1043	0.1016	0.0977

Table 3: Export Diversification Index (Comparison with World Exports)

Source: Author's Computations

#### Figure 1: Export Diversification for India



Japan's exports are found relatively un-concentrated. Also, the levels of concentration for two economies have remained

stagnant for last decade.

#### 3.4 Trade Complementarity

The complementarity index is a type of overlap index. It measures the degree to which the export pattern of one country matches the import pattern of another. A high degree of complementarity is assumed to indicate more favorable prospects for a successful trade arrangement. Changes over time may tell us whether the trade profiles are becoming more or less compatible. The figures presented in table 5 indicate that the trade profile of India with Japan has become less compatible at disaggregate level in recent years compared to its level of 2000. It may be the result of more inclination of Japan towards China as a major trading partner. Also, the active participations of Korean and Chinese firms in India might have created a competitive environment for Japanese firms in India, and India's trade is increasing with these two economies. On the other hand, India's trade complementarity with Japan has shown an upward trend in the recent years (Figure 2). It may be attributed to the relatively greater competitiveness of Indian products in Japanese market. Such outcome is also visible in the BRCA table for India and Japan.







#### 3.5 Export Similarity between India and Japan

The export similarity index is designed to measure the degree of similarity between the export profiles of two economies. The more similar the export profiles are, the more likely that

Classification	TE 2002	TE 2005	TE 2006	TE 2007	TE 2008	TE 2009	TE 2010	TE 2011
India								
2 Digits Level 0.0430 0.0441 0.0448 0.0472 0.0493 0.0530 0.0552 0.0597								
4 Digits Level	0.0274	0.0279	0.0294	0.0336	0.0373	0.0374	0.0391	0.0418
6 Digits Level	0.0258	0.0262	0.0276	0.0319	0.0358	0.0360	0.0378	0.0404
	1			Japan				
2 Digits Level	0.1372	0.1315	0.1275	0.1243	0.1212	0.1123	0.1063	0.1014
4 Digits Level	0.0278	0.0280	0.0277	0.0291	0.0301	0.0271	0.0245	0.0214
6 Digits Level	0.0119	0.0105	0.0102	0.0108	0.0113	0.0107	0.0101	0.0094

#### Table 4: Normalized Herfindal Index

Source: Author's Computations

Table 5:	Trade	Comp	lement	tarity	Index
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Classification	2000	2005	2006	2007	2008	2009	2010	2011		
India with Japan										
2 Digits Level	2 Digits Level 46 53 58 60 61 62 62 63									
4 Digits Level	37	33	32	33	33	36	34	36		
6 Digits Level	34	26	26	27	26	29	28	30		
		~	Jap	an with India						
2 Digits Level	34	42	43	45	41	46	43	41		
4 Digits Level	28	34	48	37	35	38	35	46		
6 Digits Level	27	28	42	31	31	34	32	43		

#### Source: Author's Computations

economies are competitors in global markets. High similarity indices may also indicate limited potential for inter-industry trade with a regional trading arrangement. The analysis for export similarity between India and Japan speaks that these countries had reported lower values for the index, however there had been substantial increase in the index value over the period of time (Table 6). The similarity among exports at disaggregate level is lower compared to aggregate level (Figure 3). The values for this index indicate that both the economies are not much competitors to each other in the world market. Also, it suggests that the two economies have further scope for inter industry trade with each other as postulated by trade theory where trade proliferates on basis of differences in the factor endowments.

### 3.6 Intra-Industry Trade

The promotion of industrialization can be measured with the help of intra-industry trade. Intra-industry exchange produces extra gains from international trade over and above those associated with comparative advantage because it allows a country to take advantage of larger markets. The IIT index ranges between zero and one, with larger values indicating a greater level of trade between firms in the same industry. Higher IIT ratios suggest that net gains from specialization in different products are being exploited and that the participating country is increasing its integration into the world economy. In terms

of India's trade with World, the highest IIT sectors include miscellaneous manufacturing, furniture, albuminoidal snubs, soap, edible fruits and nuts, etc. The larger value of IIT for Japan's trade with World is observed for sectors such as raw hides, natural pearls, Ceramic products, paper and paperboards, etc. For bilateral trade between India and Japan, the larger IIT sectors are wadding, felt & nonwoven; yarns, special woven fab, furniture, pharmaceutical products, albuminoidal snubs, etc.5

#### **3.7 Barriers to Trade**

Japan exercises few non-tariff barriers like import prohibitions and quantitative restrictions. 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). Japan's SPS standards are big barriers to Indian exports of poultry, meat, tuna and shrimp marine products, fruits like mangoes/ grapes (Chapter 2, pp. 10 of Indo-Japan Report). The Japanese industry has a marked support for testing, labeling and certification procedures. These include an obligatory labeling for genetically modified foods in order to provide the consumers with information on a reliable and feasible manner. Policy is also followed in regard to the non-quarantine pests, plant quarantine requirements and establishments of the pesticide residue standards. Also, Japan

Classification	TE 2002	TE 2005	TE 2006	TE 2007	TE 2008	TE 2009	TE 2010	TE 2011
2 Digits Level	27.55	31.24	32.30	33.17	34.62	35.93	36.93	36.78
4 Digits Level	19.43	23.11	23.81	24.28	25.34	26.57	27.16	26.76
6 Digits Level	14.07	16.89	17.66	18.24	19.41	20.22	20.58	19.89

Table 6: Export Similarity Index between India and Japan

Source: Author's Computations





Source: Author's Computations

is more concerned towards developing energy efficient appliances, and accordingly it has developed the regulatory performance standards, labeling requirements with a rating. It is advisable, in the interest of Indian producers and the Japanese consumers that the issues for quality improvement and labeling are taken up in consultation with the applicant country viz. India as the India-Japan EPA has come into effect (Nataraj, 2010).

Recently, Japan and India are concerned towards many issues. Japanese side emphasized the importance of resolving outstanding business environment issues quickly including: simplification of land acquisition; early implementation of Goods and Services Tax; resolving inconsistencies in tax collection between the central and state governments; rectification of discrepancy between real profit and assumed profit as regards deemed taxation; providing one-stop service for customs and interstate trade; removing restrictions in granting permit to foreign financial institutions to operate in city centers; and relaxing restrictions on External Commercial Borrowing (ECB); extending deregulation in financial and insurance sectors.<sup>6</sup> Indian side urged that there is a need to address the concerns of India regarding access for marine and agriculture products in the Japanese market and removal of non-tariff barriers. Also, Indian side urged to evolve a mechanism to streamline the procedures for testing,

inspection, record maintenance etc. of food exports, particularly the seafood, from India to Japan.

#### 4. Conclusion

The present study tries to explore the competitive sectors of India-Japan trade. It is found that India has competitiveness in sectors i.e. lac, gums, resins, carpets, cotton, precious and semi-precious stones, textile fibers, silk, man-made filaments, tea, coffee, ores, sugar, organic chemicals, etc. These sectors also hold the position in India's top exports to the world market. The intensities of competitiveness for majority of these sectors have declined in recent years compared to early years of 2000s. This outcome indicates that other emerging economies like China might have enhanced their competitiveness in these sectors. The Japanese products that are highly competitive in the world markets include- photographic, ships, boats, musical instrument, vehicles of railway and tram roll stock, nuclear reactors, electrical machinery and parts, etc. Over the period of time, Japanese commodities have been able to manage the same level of competitiveness. Based on this information, it is argued that Japan's top IRCA sectors are more robust and can be utilized further to strengthen the trade potentialities. Here, gearing of policy towards the top IRCA sectors of India and Japan may add to the trade performance of both countries in the international market.

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The commodities having high bilateral comparative advantage for India include animal husbandry, musical instruments, nickel, ores & slag, etc., whereas for Japan the sectors are tool, implement cutlery, soap, iron & steel, nuclear reactors, rubber, etc. India's dynamic commodities include milk and cream; prepared driers; meat and edible meat offal; fish & crustacean; beverages, spirits and vinegar; knitted or crocheted fabrics; etc. The dynamic commodities of Japan are pulp of wood/of other fibrous; grapes; silver; precious metal; products of animal origin; live tree & other plant; bulb, root; rubber; art of stone, plaster, cement; clocks and watches; etc.

Japanese exports have exhibited the relatively greater diversification in their export basket in recent years as compared to the level of early 2000s. India's trade complementarity with Japan has shown an upward trend in the recent years. On the basis of similarity index, it can be argued that both the economies are not much competitors to each other in the world market, and bilaterally they have further scope for inter industry trade with each other as postulated by trade theory under differences in the factor endowments. For bilateral trade between India and Japan, the high intra-industry trade sectors are wadding, felt & nonwoven; yarns, special woven fab, furniture, pharmaceutical products, albuminoidal snubs, etc. On the ground of trade barriers, Japanese side emphasized the importance of resolving outstanding business environment issues quickly including: simplification of land acquisition; early implementation of Goods and Services Tax; resolving inconsistencies in tax collection between the central and state governments; and relaxing restrictions on External Commercial Borrowing (ECB); extending deregulation in financial and insurance sectors. Indian side urged to evolve a mechanism to streamline the procedures for testing, inspection, record maintenance etc. of food exports, particularly the seafood, from India to Japan.

#### Notes:

<sup>1</sup> Nisha Taneja (2012, May 17). Indo-Korea and Indo-Japan CEPA. ICRIER. New Delhi

<sup>2</sup> World Trade Center, February 27, 2013, Press Release, Manesar.

<sup>3</sup> MOFA (March 27, 2013). Seventh Japan-India Foreign Minister's Strategic Dialogue (Overview), Ministry of Foreign Affairs of Japan.

<sup>4</sup>Geethanjali Nataraj (2010). India-Japan Economic Partnership Agreement: Gains and Future Aspects. Ministry of Finance, Government of Japan.

<sup>5</sup> Sector-wise intra-industry trade is available to the author upon request.

<sup>6</sup> Joint Report of the Japan-India Business Leaders Forum 2013. May 29, 2013, Tokyo.

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World Bank, World Integrated Trade Solution (WITS).



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

Product	Product Name	TE 2002	TE 2005	TE 2008	TE 2011
12	Loci mume posing & other vegetable	15	11	9	10
52	Cotton	10	7	8	7
71	Natural/cultured nearly, prec stone	10	10	6	6
52	Other vegetable textile fibres: nen	6	5	5	6
50	Sin-	17	15	10	6
50	Slik.	10	9	8	5
5/	Carpets and other texture floor co	6	5	5	4
14	Vegetable platting materials, veget	9	7	5	4
63	Other made up textile articles; set	3	3	3	4
54	Man-made filaments.	8	6	5	3
09	Coffee, tea, mati and spices.	3	3	4	3
55	Man-made staple fibres.	0	0	2	3
79	Zinc and articles thereof.	4	5	5	3
67	Prepr feathers & down; arti flower;		4	3	3
62	Art of apparel & clothing access, n	3	4	3	2
10	Cereals	4	6	4	2
26	Ores, slag and ash.	3	3	4	2
23	Residues & waste from the food indu	3	4	3	2
25	Salt; sulphur; earth & ston; plaste	4	4	. 3	2
42	Articles of leather; saddlery/harne	0	3	2	2
61	Art of apparel & clothing access,	3	3	3	2
41	Raw hides and skins (other than fu	3	1	1	2
89	Ships, boats and floating structure	0	3	2	2
03	Fish & crustacean, mollusc & other	4	2	2	2
29	Organic chemicals.	1	2	2	2
68	Art of stone, plaster, cement, asbe	2	1	1	2
24	Tobacco and manufactured tobacco su	. 1	1	2	1
32	Tanning/dyeing extract; tannins &	2	2	2	1
74	Copper and articles thereof.		2	2	1
73	Articles of iron or steel.	1	2	1	1
58	Special woven fab; tufted tex fab;	3 .	1	1	1
27	Mineral fuels, oils & product of th	0	1	2	1
17	Sugars and sugar confectionery.	2	1	3	1
36	Explosives; pyrotechnic prod; match	1	1	1	1
78	Lead and articles thereof.	0	0 -	1	1
61	Footwear, gaiters and the like; par	2	2	2	1
04	Meat and edible meat offal	1	1	1	
72	Iron and steel.	1	2	1	1
12	Edible vegetables and certain roots	2	1	1	I

Source: Author's Computations

		ang men gi cate		pan	
Product	Product Name	TE 2002	TE 2005	TE 2008	TE 2011
37	Photographic or cinematographic goo	3	4	4	5
89	Ships, boats and floating structure	3	3	3	3
92	Musical instruments; parts and ace	3	2	2	2
87	Vehicles o/t railw/tramw roll-stock	2	2	3	2
81	Other base metals; cermets; article		<u> </u>	2	2
72	Iron and steel.	1	1	1	2
70	Glass and glassware.	1	1	1	2
90	Optical, photo, cine, meas, checkin	2	2	2	2
84	Nuclear reactors, boilers, mchy & m	1	1	1	2
85	Electrical mchy equip parts thereof	2	2	2	2
38	Miscellaneous chemical products.	1	1	2	2
40	Rubber and articles thereof.	1	1	1	1
96	Miscellaneous manufactured articles	2	2	1	1
32	Tanning/dyeing extract; tannins &	1	1 1	1	1
82	Tool, implement, cutlery, spoon & f	1	1	1	1
29	Organic chemicals.	1	1	1	1
39	Plastics and articles thereof.	1	1	1	1
54	Man-made filaments.	1	1	1	1
74	Copper and articles thereof.	1	1	1	1
55	Man-made staple fibres.	1	1	1	1
68	Art of stone, plaster, cement, asbe	1	1	-1	1

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

Source: Author's Computations

#### Table A.3: Commodities having BRCA greater than One in India

Product	Product Name	TE 2002	TE 2005	TE 2008	TE 2011
23	Residues & waste from the food indu	1	3	5	8
05	Products of animal origin, nes or	11	16	15	8
03	Fish & crustacean, mollusc & other	8	7	7	7
16	Prep of meat, fish or crustaceans,	6	7	7	6
35	Albuminoidal subs; modified starche	2	2	2	4
59	Impregnated, coated, cover/laminate	<b>1</b>	2	4	4
14	Vegetable plaiting materials; veget	2	.3	7	3
15	Animal/veg fats & oils & their clea	3	3	3	3
92	Musical instruments; parts and ace	2	2	4	3
75	Nickel and articles thereof.	0	-	4	3
26	Ores, slag and ash.	8	5	3	3
06	Live tree & other plant; bulb, root	3	5	11	2
27	Mineral fuels, oils & product of th	-	1	1	2
08	Edible fruit and nuts; peel of citr	1	1	2	2
72	Iron and steel.	1	0	1	2
13	Lac: gums, resins & other vegetable	2	3	2	2
28	Inorgn chem; compds of prec mtl, r	1	1	1	2
38	Miscellaneous chemical products.	1	1	1	1
81	Other base metals: cermets; article	0	2	3	1
51	Wool fine/coarse animal hair, hors	1	1	1	1
88	Aircraft spacecraft and parts the	0		-	1
33	Essential oils & resinoids: perf.	1	1	2	1
76	Aluminium and articles thereof.	0	0	1	1
32	Tenning/dueing extract: tanning &	1		1	1
90	Optical photo cine meas checkin	2	3	2	1
25	Salte sub-bury conth & ston: plaste	1	1	1	1
20	Sait; suiphur; eartii & ston, praste	1	1	1	1
60	Urganic chemicals.	1	1	1	1
02	Art of apparel & clothing access, if	1	1	1	1
09	Coffee, tea, mati and spices.	·			

Source: Author's Computations

Product	Product Name	TE 2002	TE 2005	TE 2008	TE 2011
82	Tool, implement, cutlery, spoon & f	4	2	3	3
34	Soap, organic surface-active agents	3	3	3	2
73	Articles of iron or steel.	2	2	3	2
72	Iron and steel.	2	2	2	2
54	Man-made filaments.	2	2	2	2
25	Salt; sulphur; earth & ston; plaste	2	3	2	2
84	Nuclear reactors, boilers, mchy & m	1	2	2	2
40	Rubber and articles thereof.	2	2	1	2
68	Art of stone, plaster, cement, asbe	2	2	1	1
81	Other base metals; cermets; article	1	1	0	1
83	Miscellaneous articles of base meta	1	1	1	1
37	Photographic or cinematographic goo	4	3	2	1
75	Nickel and articles thereof.	0	0	1	1
29	Organic chemicals.	2	2	1	1
28	Inorgn chem; compds of prec mtl, r	2	1	1	1
27	Mineral fuels, oils & product of th	5	5	3	1
56	Wadding, felt & nonwoven; yarns; tw	1	1	1	1
49	Printed books, newspapers, pictures	2	1	1	1
96	Miscellaneous manufactured articles	1	1	1	1
26	Ores, slag and ash.	-	0	0	1
90	Optical, photo, cine, meas, checkin	1	1	1	1

Table A.4: Commodities having BRCA greater than One in Japan

Source: Author's Computations

#### **Annexure - B**

## Table B.1: Export Dynamic Commodities of India (2 Digit Level)

S. No.	Product Code	Product Name	
		2001-08	
		Nil	
		2009-2011	
1	02	Meat and edible meat offal	
2	03	Fish & crustacean, mollusc & other	
3	05	Products of animal origin, nes or	
4	22	Beverages, spirits and vinegar.	
5	60	Knitted or crocheted fabrics	
6.	78	Lead and articles thereof.	

Source: Author's Computations

Annexure - B Table B.2: Export Dynamic Commodities of Japan (2 Digit Level)

S. No.	Product Code	(2 Digit Level)		
	- outer cont	Product Name		
		2001-08		
	47	Pulp of wood/of other fibrous cellu		
		2009-2011		
	05	Products of animal origin, nes or		
2	06	Live tree & other plant; bulb, root		
3	34	Soap, organic surface-active agents Rubber and articles thereof.		
4	40			
5	45	Cork and articles of cork.		
6	47	Pulp of wood/of other fibrous cellu		
7	68	Art of stone, plaster, cement, asbe		
8	71	Natural/cultured pearls, prec stone		
9	90	Optical, photo, cine, meas, checkin		
10	91	Clocks and watches and parts thereo		

Source: Author's Computations

#### Table B.3: Export Dynamic Commodities of India (4 Digit Level, 2001-08)\*

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: Author's Computations, Note: \* The results for export dynamic commodities for period 2009-11 are available to authors upon request.

## Table B.4: Export Dynamic Commodities of Japan (4 Digit Level, 2001-08)\*

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.	
1	3915	Waste, parings and scrap, of plasti	
5	3920	Other plates, sheets, film, foil an	
5	4008	Transfers (decalcomanias).	
0	7106	Silver (including silver plated wit	
/	7106	Other articles of precious metal or	
8	7115	Ferrous waste and scrap; remelting	
9	7204	Ships' derricks: cranes, including	
10	8426	Salf propelled bulldozers, angledoz	
11	8429	Self-properted buildozets, anget	
12	8430	Other moving, grading, levening, s	
13	8431	Parts suitable for use solely of pr	

Source: Author's Computations, Note: \* The results for export dynamic commodities for period 2009-11 are available to authors upon request.

S No	Durdust Code	Product Name
0.110.	Fronuct Code	Eresh (unripened or uncured) cheese
1	040610	These design and propagations based on
2	320619	Pigments and preparations oused
3	321100	Prepared driers.
4	200000	Other
4	380890	Other
5	401199	Outer
6	410129	Other hides and skills of bothie and
7	551220	Containing 85 percent or more by weight o
1	531227	Bed linen, knitted or crocheted
8	630210	Ded minn, mark
9	841480	Other
10	848180	Other appliances
10	010100	

# Table B.5: Export Dynamic Commodities of India (6 Digit Level, 2001-08)\*

Source: Author's Computations, Note: \* The results for export dynamic commodities for period 2009-11 are available to authors upon request.

S. No.	Product Code	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 testh and the different	
I		Artificial teeth and dental fitting	

# Table B.6: Export Dynamic Commodities of Japan (6 Digit Level, 2001-08)\*

Source: Author's Computations, Note: \* The results for export dynamic commodities for period 2009-11 are available to authors upon request.