

## POTENTIAL AND PROSPECTS OF INDIA'S TRADE WITH JAPAN: A QUANTITATIVE ANALYSIS

Sadhna<sup>1</sup>

**Abstract.** India's relationship with Japan has emerged as a key cornerstone of our foreign policy since look east policy. India and Japan have signed comprehensive economic partnership agreement (CEPA) in 2010 which cover many areas of cooperation. India is a net importer and major receptor of investment and assistance from Japan. It is in this context, the present study attempt to analyse India's trade potential and prospects with Japan for the period 2001 to 2018 by using Balassa's (1965) RCA and Kojima's (1964) trade intensity index. India has comparative advantage in the export of fish, crustaceans, dairy products, eggs, honey, edible animal product, live trees, plants, bulbs, cut flowers, etc products to Japan and organic chemicals, pharmaceutical, essential oils, perfumes, cosmetics, explosives, matches, etc from it. India has to maintain its comparative advantage in these products and have to develop in other products. This RCA will have help to reduce trade deficit, expand market size and enhance relations with Japan. The value of trade intensity for total trade, exports from India to it and imports by Japan to is less than 1 but rotated around 0.25 to 0.75. India has trade prospects and potential with Japan but need to be exploited.

Keywords: Potential, Comparative Advantage, Trade, Intensity.

### INTRODUCTION

Japan and India have a long history of bilateral ties. Cultural and religious exchanges began with the spread of Buddhism from India to Japan via China and Korea, followed by intermittent exchanges till the signing of Treaty of Peace between Japan and India in 1952. This treaty established more formal diplomatic, trade, economic and technical relations between the two. This treaty is one of the first treaties Japan signed after World War II. Trade between the two nations began with India supplying iron ore to help Japan's reconstruction after World War II and Japan began to provide aid in the form of Official Development Assistance (ODA) from 1958. Since the 1980s, however, efforts were made to strengthen bilateral ties. India's Look East Policy (LEP) which is presently renamed as Act East Policy (AEP) posited Japan as a key partner. Relations between India and Japan continued to improve thereafter but reached a brief low in 1998 as a result of Pokhran-II (an Indian nuclear weapons test). Japan imposed sanctions on India following test, which included suspension of all political exchanges and cutting off economics assistance. These sanctions were lifted three years later. Relations improved exponentially in the following period. India and Japan signed a CEPA<sup>1</sup> in 2010 that came into effect on 9 August 2011. It is one of the most comprehensive of all such agreements concluded by India and covers not only trade in goods but important areas of trade in services, investment, intellectual property rights, custom procedure and other trade related issues. Bilateral ties between the two nations continued to improve when Japanese Prime Minister, Shinzo Abe was to be the chief guest at India's 2014 Republic Day parade. In 2014, the Indian Prime Minister visited Japan. During his tenure as the Chief Minister of Gujarat, Narendra Modi had maintained good ties with the Japanese Prime Minister. His 2014 visit further strengthened the ties between the two countries, and resulted in several key agreements. Narendra Modi visited Japan for the second time as Prime Minister in November 2016. During the meeting, India and Japan signed the Agreement for Cooperation in Peaceful Uses of Nuclear Energy and agreements on manufacturing skill development in India, cooperation in space, earth sciences, agriculture, forestry and fisheries, transport and urban development.

---

<sup>1</sup> Department of Evening Studies, Panjab University, Chandigarh-160014  
Email Id: sadhnagarg87@gmail.com  
Tel. No. 8427112712

Japan has been extending bilateral loan and grant assistance to India since 1958 and is the largest bilateral donor for India. Japanese ODA supports India's efforts for accelerated economic development particularly in priority areas like power, transportation, environmental projects and projects related to basic human needs. India has been ranked as the one of the most attractive investment destination in the latest survey (2018) of Japanese manufacturing companies. Japanese FDI into India has mainly been in automobile, electrical equipment, telecommunications, chemical and pharmaceutical sectors. Besides investment, bilateral trade continued to increase between the both. India's is a net importer of Japan and Japan is a net exporter to India (Figure-1). The friendship between both is known as Japanese-Indian Brotherhood. Keeping in view the vast growing relation and observed from review of literature, it is significant to analyze India's trade prospects with Japan and fulfill that gap.

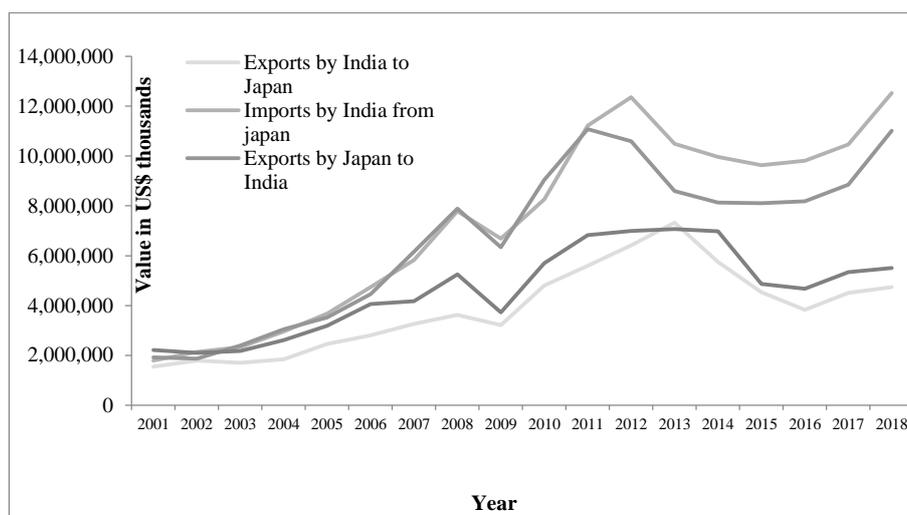


Figure-1 Bilateral Trade between India and Japan (US\$ thousands)

## REVIEW OF LITERATURE

**Thornhill (1988)** in his study revealed that with the development of Irish's economy, its comparative advantage in manufacturing exports shifted during the 1970s in the direction of high-skill, capital-intensive industries from low-skill, labour-intensive industries. **Maule (1996)** used RCA and revealed that Thailand has trade complementarity with other developed countries than ASEAN neighbours. **Yue (2001)** with the help of RCA index revealed that pattern of comparative advantage are different in the coastal regions and interiors regions of China. **Bender and Li (2002)** used RCA and analysed that East Asia's comparative advantage in the export of manufacturing products tended to decline with ASEAN-4 and Latin American countries (1981-1997). **Edwards and Schoer (2002)** employed RCA and pointed out that South Africa has comparative advantage in natural resource based product. It has strong RCA in non-traditional sectors.

**Havrila and Gunawardana (2003)** in their study evaluated that Australia has strong comparative advantage and disadvantage in textile and clothing industries at aggregated level, but has comparative advantage in sub-categories of special textiles products by using RCA and Vollrath's measures of competitiveness. **Utkulu and Seymen (2004)** used RCA and studied that Turkey enjoyed comparative advantage in exporting vegetables and fruits, sugar, sugar preparations and honey, tobacco, oil seeds, rubber manufactures, textiles yarn, fabrics and related products, clothing and clothing accessories to EU. **Wysokinska (2004)** employed RCA and found that Polish T&C products are still able to compete in the EU internal market because high comparative advantage. **Batra and Khan (2005)** in their study revealed that there is no change in the structure of comparative advantage of India and China over the period 2002-2003 by using RCA index at 2 and 6 digit level as mentioned in HS classification.

**Hanif and Jafri (2006)** analyzed that external finance help to increase export competitiveness and comparative advantage of textile sector of Pakistan. **Gao (2007)** in his study showed that there is an improvement in comparative advantage of textiles, metal products and other manufacturing sectors for India and China due fast growth of their economies. **Serin and Civan (2008)** employed RCA and found that Turkish has comparative advantage in all traded sector to European Union except tomato sector. **Sheng and Song (2008)** demonstrated that bilateral trade between China and Australia is profitable for both countries especially in agricultural products, petroleum products, and textile and clothing products. **Chandran (2010)** used TII and RCA and found that trade complementarities are seen between India and ASEAN countries which help to enhance trade. Both enjoy comparative advantage in numerous products. **Shoufeng et.al (2011)** in their study employed RCA and evaluated that China and Central Asian countries do not have comparative advantage in the export of total agricultural products to each other but have advantage in some specific categories of agricultural products. **Sahinli (2013)** identified that Turkey has comparative advantage in 95 agricultural items out of 420 and where as EU in 186 agricultural items in 2008 by using RCA. **Shahab and Mahmood (2013)** highlighted that from 2002-2009, Pakistan has significant and stable comparative advantage in the leather industry and its products over China, India and Iran by using Balassa's RCA index. **Ashish and Kannan (2015)** utilized RCA and found that India comparative advantage in the export of agro-processed product to rest of the world over the time period 2003 to 2013.

#### RESEARCH GAP AND OBJECTIVES OF THE STUDY

Various studies (as seen from review of literature) have analyzed trade specialisation and intensity of trade between Australia and China, Turkey, Pakistan, US, Central Asian Countries, EU, ASEAN, etc by taking one commodity only and applying various models revealed comparative advantage, gravity model, grubel lloyed index, trade intensity index and trade complimentarity index. To the best of best my knowledge, no study has been carried out to calculate India's trade potential and prospects with Japan at 2-digit level. In order to fulfill this gap, present study attempts to analyze India's trade specialisation and intensity of trade with Japan.

The objectives of the present study are given below:

- a) To identify the comparative advantage in the exports and imports for commodities, at 2-digit level mentioned in Standard International Trade Classification (SITC) revision-2, in order to explore potential areas for further cooperation and
- b) To calculate India's trade intensity with Japan.

#### DATABASE AND METHODOLOGY

In order to explore potential areas for further cooperation, India's comparative advantage in the export/import of products to/from Japan is identified by using Balassa's (1965) RCA. It has been calculated at 2-digit level mentioned in SITC revision-2, United Nations Conference on Trade and Development (UNCTAD) for the period 2001 to 2018. Thereafter, products with RCA greater than 1 are chosen. For this data has been sourced from the International Trade Centre (ITC) which is a joint agency of the WTO and the United Nations. A product with high RCA is competitive and can be exported to countries with low RCA. It tells about the relative trade performance of individual countries in particular commodities.

To analyze India's trade prospects with Japan, intensity of India's trade with Japan for total trade, exports by India to it and import from it is calculated from 2001 to 2018 by employing Kojima's (1964) intensity of trade index. The secondary data pertaining to trade has been collected from sources like wits, World Bank, Direction of Trade Statistics etc. When an economy is found to have total trade, export and import intensity index with a value greater than 1, then it reflects more trade prospects and a high degree of integration with partner.

$$RCAX = (x_{ij}^k \div X_{ij}) / (x_j^k \div X_j)$$

Where:  $x_{ij}^k$  = export of product k by country i (India) to another Region j;  $X_{ij}$  = total exports of country i (India) to the reference group j;  $x_j^k$  = exports of product k by the reference group j;  $X_j$  = total exports of reference group j.

The Revealed Comparative Advantage for Imports (RCAM) is calculated as below:

$$RCAM = (m_{ij}^k \div M_{ij}) / (m_j^k \div M_j)$$

Where:  $m_{ij}^k$  = import of product k by country i (India) from another Region j;  $M_{ij}$  = total imports of country i (India) from the reference group j;  $m_j^k$  = imports of product k by the reference group j;  $M_j$  = total imports of reference group j.

$$T_{ij} = \frac{[(X_{ij} + M_{ij}) \div (X_i + M_i)]}{[(X_{wj} + M_{wj}) - (X_{ij} + M_{ij}) \div (X_w + M_w) - (X_i + M_i)]}$$

Where:  $T_{ij}$  = total trade intensity index of country i with country j;  $X_{ij}$  = exports of country i to country j;  $M_{ij}$  = imports of country i from country j;  $X_i$  = total exports of country i;  $M_i$  = total imports of country i;  $X_{wj}$  = total world exports to country j;  $M_{wj}$  = total world imports from country j;  $X_w$  = total world exports;  $M_w$  = total world imports.

$$X_{ij}^a = \frac{[X_{ij} \div X_i]}{[(M_j - M_{ji}) \div (M_w - M_i)]}$$

Where:  $X_{ij}^a$  = export trade intensity index of country i with country j;  $X_{ij}$  = exports of country i to country j;  $X_i$  = total exports of country i;  $M_j$  = total imports of country j;  $M_{ji}$  = imports of country j from country i;  $M_w$  = total world imports;  $M_i$  = total imports of country i.

$$M_{ij}^a = \frac{[M_{ij} \div M_i]}{[(X_j - X_{ji}) \div (X_w - X_i)]}$$

Where:  $M_{ij}^a$  = import trade intensity index of country i with country j;  $M_{ij}$  = imports of country i from country j;  $M_i$  = total imports of country i;  $X_j$  = total exports of country j;  $X_{ji}$  = exports of country j to country i;  $X_w$  = total world exports;  $X_i$  = total exports of country i.

## RESULTS AND DISCUSSION

**Results of Revealed Comparative Advantage for Exports:** It is observed from Table-1 that India has sustainable comparative advantage in the export of products with code 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 35, 41, 42, 44, 50, 51, 52, 53, 57, 58, 60, 61, 62, 63, 64, 71 and 74 to Japan since 2001.

Table-1 Products with Value of RCA Greater than 1 for Exports Japan from India

Serial No	Product Code	RCA Characteristics
1	1	India has no trade specialisation in the export of this product to Japan since 2001 except for the year 2004.
2	2	There is no RCA in this product since 2005
3	3	India has trade specialisation in this product since 2001
4	4	India has sustainable and strong comparative advantage in the export of this product to Japan since 2001.
5	5	There is RCA in the export of this product to Japan by India since 2001
6	6	India has sustainable and strong RCA in this product since 2001
7	7	India has RCA in this product since 2001
8	8	This product has sustainable RCA since 2001.
9	9	India has sustainable comparative advantage in this product since 2001.
10	10	India has trade specialisation in this product since 2001
11	11	India has sustainable and strong comparative advantage in the export of this product to Japan since 2001.
12	12	There is RCA in the export of this product to Japan by India since 2001
13	13	India has trade specialisation in this product since 2001
14	14	India has sustainable and strong comparative advantage in the export of this product to Japan since 2001.
15	15	There is RCA in the export of this product to Japan by India since 2001
16	16	India has sustainable and strong RCA in this product since 2001
17	20	India has RCA in this product since 2001
18	21	This product has sustainable RCA since 2001.
19	22	India has sustainable comparative advantage in this product since 2001.
20	23	India has trade specialisation in this product since 2001
21	24	India has sustainable and strong comparative advantage in the export of this product to Japan since 2001.
22	25	There is RCA in the export of this product to Japan by India since 2001
23	26	India has sustainable and strong RCA in this product since 2001
24	27	India has RCA in this product since 2001
25	28	This product has sustainable RCA since 2001.
26	29	India has sustainable comparative advantage in this product since 2001.
27	30	India has trade specialisation in this product since 2001
28	31	India has sustainable and strong comparative advantage in the export of this product to Japan since 2001.

29	32	There is RCA in the export of this product to Japan by India since 2001
30	33	India has sustainable and strong RCA in this product since 2001
31	35	India has RCA in this product since 2001
32	38	India has trade specialisation in this product since 2013
33	41	India has trade specialisation in this product since 2001
34	42	India has sustainable and strong comparative advantage in the export of this product to Japan since 2001.
35	43	India has trade specialisation in this product since 2015
36	44	There is RCA in the export of this product to Japan by India since 2001
37	46	India has RCA in this product since 2001 except from 2010 to 2015
38	50	India has trade specialisation in this product since 2001
39	51	India has sustainable and strong comparative advantage in the export of this product to Japan since 2001.
40	52	There is RCA in the export of this product to Japan by India since 2001
41	53	India has sustainable and strong RCA in this product since 2001
42	57	India has RCA in this product since 2001
43	58	India has trade specialisation in this product since 2001
44	59	India has sustainable and strong comparative advantage in the export of this product to Japan since 2001.
45	60	There is RCA in the export of this product to Japan by India since 2001
46	61	India has sustainable and strong RCA in this product since 2001
47	62	India has RCA in this product since 2001
48	63	This product has sustainable RCA since 2001.
49	64	India has sustainable comparative advantage in this product since 2001.
50	69	India has sustainable RCA in the export of this product to Japan since 2018
51	71	India has sustainable and strong RCA in this product since 2001.
52	72	India has trade specialisation in the export of this product to Japan since 2007.
53	74	India has comparative advantage in the export of this product to Japan since 2001
54	76	India has RCA in this product since 2008
55	78	There is RCA in the export of this product to Japan by India since 2013
		ater than 1 in the product since 2011

Source: Author's calculations are based on the trade statistics database of the International Trade Centre (ITC).

**Results of Revealed Comparative Advantage for Imports (RCAM):** As seen from Table-2, India's trade specialisation in the import of numerous products from Japan. India has sustainable and strong RCA in the import of products with code 29, 30, 33, 36, 38, 39, 40, 41, 49, 56, 57, 58, 62, 69, 73, 74, 75, 79, 80, 83, 84, 85, 86, 88, 90, 91 and 97 from Japan since 2001.

Table-2 Products with Value of RCA Greater than 1 for Imports by India from Japan

Serial No	Product Code	RCA Characteristics
1	26	India has RCA in this product since 2018.
2	29	There is comparative advantage in this product since 2001.
3	30	India has comparative advantage in the import of this product from Japan since 2001.
4	33	There is RCA in this product since 2001.
5	35	India has comparative advantage in the import of this product from Japan since 2012.
6	36	India has sustainable and strong RCA in this product since 2001.
7	38	This product has sustainable comparative advantage since 2001.
8	39	India has trade specialisation in this product since 2001
9	40	There is RCA in this product since 2001.
10	41	India has comparative advantage in the import of this product from Japan since 2001.
11	49	India has trade specialisation in this product since 2001
12	50	RCA is less than 1 since 2001 except for the year 2013.
13	56	There is comparative advantage in this product since 2001.
14	57	India has comparative advantage in the import of this product from Japan since 2001.
15	58	There is RCA in this product since 2001.
16	60	RCA is less than 1 since 2013
17	62	India has comparative advantage in the import of this product from Japan since 2001.
18	69	India has trade specialisation in this product since 2001
19	70	There is RCA in this product since 2004
20	71	India has RCA in this product since 2017
21	72	This product has sustainable comparative advantage since 2010
22	73	India has sustainable and strong RCA in this product since 2001.
23	74	This product has sustainable comparative advantage since 2001.
24	75	India has trade specialisation in this product since 2001
25	76	There is RCA in this product since 2012
26	79	India has comparative advantage in the import of this product from Japan since 2001.
27	80	India has trade specialisation in this product since 2001
28	82	RCA is less than 1 in this product since 2001 except for the year 2009

29	83	India has trade specialisation in this product since 2001
30	84	There is RCA in this product since 2001
31	85	India has comparative advantage in the import of this product from Japan since 2001.
32	86	India has trade specialisation in this product since 2001
33	87	There is RCA in this product since 2012
34	88	India has comparative advantage in the import of this product from Japan since 2001.
35	90	India has trade specialisation in this product since 2001
36	91	India has comparative advantage in the import of this product from Japan since 2001.
37	97	India has trade specialisation in this product since 2001

Source: Author's calculations are based on the trade statistics database of the International Trade Centre

**Results of Intensity of Trade Index:** For total trade, India has less intensity of trade with Japan (Table-3). The value of total trade intensity is rotated around 0.25 to 0.75 since 2001. India's intensity of trade with Japan for exports and imports to/from India is less than 1 since 2001. The value of III is higher than EII. India has trade prospects with it and is a net importer of it.

Table-3 Intensity of Trade Index of India with Japan

Year	Intensity of Trade Index for Total Trade between India and Japan	Intensity of Trade Index for Exports by India to Japan	Intensity of Trade Index for Imports by India from Japan
2001	0.61	0.65	0.53
2002	0.63	0.69	0.57
2003	0.54	0.58	0.51
2004	0.49	0.50	0.48
2005	0.48	0.50	0.45
2006	0.50	0.49	0.49
2007	0.52	0.50	0.52
2008	0.48	0.42	0.50
2009	0.49	0.41	0.53
2010	0.47	0.47	0.46
2011	0.47	0.39	0.53
2012	0.52	0.45	0.58
2013	0.54	0.49	0.59
2014	0.50	0.42	0.59
2015	0.56	0.45	0.64
2016	0.56	0.38	0.67
2017	0.52	0.40	0.59
2018	0.54	0.38	0.64

Source: Author's calculations

## DISCUSSION

In the present study, India's trade potential and prospects with Japan has been analyzed. In order to explore potential areas for cooperation, RCA is used to identify the comparative advantage in the exports and imports for commodities, at 2-digit level mentioned in SITC revision-2 from 2001-2018. India has comparative advantage ( $RCAX > 1$ ) in the export of fish, crustaceans, molluscs, aquatic invertebrates, dairy products, eggs, honey, edible animal product, products of animal origin, live trees, plants, bulbs, roots, cut flowers, edible vegetables and certain roots and tubers, edible fruit, nuts, peel of citrus fruit, melons, coffee, tea mate and spices, cereals, milling products, malt, starches, inulin, wheat gluten, oil seed, oleagic fruit, grain, seed, fruit, lac, gums, resins, vegetable saps and extracts, miscellaneous edible preparations, beverages, spirits and vinegar, wastes of food industry, animal fodder, tobacco and manufactured tobacco substitutes, salt, sulphur, earth, stone, plaster, lime and cement, ores, slag and ash, mineral fuels, oils, distillation products, inorganic chemicals, precious metal compound, isotopes, organic chemicals, pharmaceutical products, fertilizers, tanning, dyeing extracts, tannins, derivs, pigments, essential oils, perfumes, cosmetics, toiletries, albuminoids, modified starches, glues, enzymes, raw hides and skins (other than furskins) and leather, articles of leather, animal, gut, harness, travel goods, wood and articles of wood, wood charcoal, vegetable plaiting materials, vegetable products, animal, vegetable fats and oils, cleavage products, meat, fish and seafood food preparations, vegetable, fruit, nut, etc food preparations, silk, wool, animal hair, horsehair yarn and fabric thereof, cotton, vegetable textile fibres, paper yarn, woven fabric, carpets and other textile floor coverings, special woven or tufted fabric, lace, tapestry,

knitted or crocheted fabric, articles of apparel, accessories, knit or crochet, other made textiles articles, sets, worn clothing etc, footwear, gaiters and the like, parts thereof, pearls, precious stones, metals, coins, copper and articles thereof, products to Japan. There are numerous products in which India has comparative advantage ( $RCA > 1$ ) in the imports from Japan. These products are organic chemicals, pharmaceutical products, Essential oils, perfumes, cosmetics, toiletries, explosives, pyrotechnics, matches, pyrophorics, chemical products, plastic and articles thereof, rubber and articles thereof, raw hides and skins (other than furskins) and leather, printed books, newspapers, pictures, wadding, felt, nonwovens, yarn, twine, cordage, carpets and other textile floor coverings, special woven or tufted fabric, lace, tapestry, articles of apparel, accessories, not knit or crochet, articles of iron or steel, copper and articles thereof, nickel and articles thereof, zinc and articles thereof, tin and articles thereof, miscellaneous articles of base metal, machinery, nuclear reactors, boilers, electrical, electronic equipment, railway, tramway locomotives, rolling stock, equipment, aircraft, spacecraft and parts thereof, optical, photo, technical, medical, etc apparatus, clock and watches and parts thereof, works of art, collectors pieces and antiques. Kojima's intensity of trade index for total trade, export and import is applied to estimate prospects of India's trade and level of integration with Japan (2001-2018). It is observed that results intensity of trade values of India with Japan is less than 1 over the time period under study. It is rotated around 0.25 to 0.75 since 2001. The value of III is higher than EII. India has trade potential and prospects with Japan but need to exploit this potential.

## CONCLUSION

India and Japan have strong economic, military and cultural ties. Both have signed CEPA agreement which cover trade in goods, services, investment, intellectual property rights and other trade related issues. Bilateral trade continued to increase but India is a net importer of Japan. Japan ranks at the 11<sup>th</sup> position amongst India's top trading partners. Bilateral trade between the both increased to US\$ 3,37,94,632 in 2018-19 from US\$ 74,81,765 thousand in 2001-02. India's export to Japan increased to US\$ 47,41,294 thousand in 2018 from US\$ 15,51,244 thousand in 2001. India imported more from Japan than exported to it as seen from figure. Japan exported more to India than imported from it. Except trade, India is a major recipient of Japanese Official Development Assistance (ODA) and also attracted significant investment from it. The number of Japanese affiliated companies in India has grown significantly in recent years and vice-versa. Under Make in India, Japan is committed to increase investment in India by US\$ 35 billion in the next five years to boost bilateral trade relations. From above results and discussion, it can be concluded that India has trade potential and prospects with Japan but need to exploit. The study has recommended many products in which India has comparative advantage and which can enhance India's trade prospects with Japan. By focusing its trade efforts on these products ( $RCA > 1$ ), India can not only achieve the key objective of diversification in its trade with Japan; but also correct its trade deficit with Japan. RCA will help to increase its volume of trade significantly with it, enlarge its market size and competitive in product. India has to maintain its specialisation in products which have  $RCA > 1$  but also have to develop comparative advantage in other products. India has intensity of trade with Japan but it is less than 1. It is rotated around 0.25 to 0.75. The value of import intensity is greater than export intensity which indicates India imports more from Japan than exports to it.

---

### ***Declaration of Conflicting Interests***

*The author declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article. This paper is original and not elsewhere submitted for publication.*

### ***Funding***

*The author received no financial support for the research, authorship and/or publication of this article.*

### ***Endnote***

*CEPA covers both goods and services and also offer facilities to encourage trade related investments.*

---

## REFERENCES

- Ashish, A., & Kannan, E. (2015). Analysis of India's Revealed Comparative Advantage in Agro-processed Products, *Indian Journal of Economics and Business*, 14 (1), 115-130.
- Balassa, B. (1965). Trade Liberalisation and Revealed Comparative Advantage, *The Manchester School of Economics and Social Studies*, 33, 99-123.
- Batra, A., & Khan, Z. (2005). Revealed Comparative Advantage: An Analysis for India and China, *ICRIER Working paper No-168*, 1-82.
- Bender, S., & Li, K.W. (2002). The Changing Trade and Revealed Comparative Advantages of Asian and Latin American Manufacture Exports, *Economic Growth Center, Yale University. Center Discussion Paper No-843*, 1-24.
- Chandran, B. P. S. (2010). Trade Complementarity and Similarity between India and ASEAN Countries in the Context of RTA, *Munich Personal RePEc Archive (MPRA), Paper No- 29279*, 1-12.
- Edwards, L., & Schoer, V. (2002). Measures of Competitiveness: A Dynamic Approach to South Africa's Trade Performance in the 1990s, *The South African Journal of Economics*, 70(6), 1008-1046.
- Gao, Y. (2007). Dynamic Comparative Advantage: A Comparison of India and China, 1-36, <http://papyrus.bib.umontreal.ca/jspui/bitstream/1866/2551/1/a1.lg1086.pdf>.
- Hanif, M. N., & Jafri, S. K. (2006). Financial Development and Textile Sector Competitiveness: A Case Study of Pakistan, *South Asian Economic Journal*, 9(1), 141-158.
- Havrila, I., & Gunawardana, P. (2003). Analyzing Comparative Advantage and Competitiveness: An Application to Australia's Textile and Clothing Industries, *Australian Economic Papers*, 42(1), 103-117.
- Kojima, K. (1964). The Pattern of International Trade among Advanced Countries, *Hitotsubashi Journal of Economics*, 5(1), 16-36.
- Maule, A. (1996). Some Implication of AFTA for Thailand: A Revealed Comparative Advantage Approach, *ASEAN Economic Bulletin*, 13 (1), 14-38.
- Sahinli, M. A. (2013). Comparative Advantage of Agriculture Sector between Turkey and European Union, *African Journal of Agricultural Research*, 8(10), 884-895.
- Serin, V., & Civan, A. (2008). Revealed Comparative Advantage and Competitiveness: A Case Study for Turkey towards the EU, *Journal of Economic and Social Research*, 10(2) 25-41.
- Shahab, S., & Mahmood, M. T. (2013). Comparative Advantage of Leather Industry in Pakistan with Selected Asian Economies, *International Journal of Economics and Financial Issues*, 3(1), 133-139.
- Sheng, Y., & Song, L. (2008). Comparative Advantage and Australia-China Bilateral Trade, *Economics Papers*, 27(1), 41-56.
- Shoufeng, C., Feng, L.I., & Zhang, J. (2011). Export Competitiveness of Agri-products Between China and Central Asian Countries: A Comparative Analysis, *Canadian Social Science*, 7(5), 124-134.
- Thornhill, D. J. (1988). The Revealed Comparative Advantage of Irish Exports of Manufactures 1969-1982, *Journal of the Statistical and Social Inquiry Society of Ireland*, 25(5), 91-146.
- Utkulu, U., & Seymen, D. (2004). Revealed Comparative Advantage and Competitiveness: Evidence for Turkey vis-a-vis the EU/15, paper presented at the European Trade Study Group's 6th Annual Conference, ETSG 2004, Nottingham, September, 1-26.
- Wysokinska, Z. (2004). Competitiveness of the Polish Textile and Clothing Sector within the European Integration Process and the Liberalization Procedures of GATT/WTO Agreement (ATC), *Fibres and Textiles in Eastern Europe*, 12(4[48]), 8-11.
- Yue, C. (2001). Comparative Advantage, Exchange Rate and Exports in China, paper prepared for the international conference on Chinese economy of Has China Become a Market Economy?, CERDI, Clermont-Ferrand, France, 1-19.