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AN ANALYSIS OF BILATERAL TRADE BETWEEN INDIA AND KOREA

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Abstract

India and Republic of Korea (Korea) have been engaging in the bilateral trade relationship from 1962. Though the trade relationship exists for 56 years between the countries, very limited researches have conducted on the trade relationship between the countries. Hence, the present study made an attempt to fill the gap in the literature by assessing and understanding trade pattern of two countries. Based on the existing studies and the availability of data, qualitative methods have been utilized to analyze composition of trade between India and Korea. Further, the trade intensity index, intra industry trade index, and revealed comparative advantage index have been utilized to assess the dynamics of the bilateral trade between India and Korea. It is observed from the trade intensity index that, India's trade with Korea is less than it should and thus India has a great scope to expand its trade with Korea. There are 9 commodity groups alone having highest intra industry index value and the remaining smaller values indicates less trade between the countries. Comparative advantage index shows that there were no overlaps in two countries trade; therefore two countries have a chance to increase their trade with each other. Since very limited studies have analyzed bilateral trade between India and Korea, the present work assesses the trade pattern between the countries, and the factors motivating such trade. Moreover, the findings would be helpful to promote the commercial as well as economic relations between the countries.

Keywords: Exports; Imports; Bilateral trade; Trade intensity; Intra industry trade; Revealed comparative advantage

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1. INTRODUCTION

India and the Republic of Korea (Korea) have been maintaining a congenial relationship with each other, after the establishment of consular mechanism in 1962. Followed by the diplomatic related tie-up were instituted in 1973. From then, both countries were developed progressively in economic and political relations. Its result both countries

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have built a strong foundation for their relationship with the help of economic reciprocities and political convergences. Thus both countries have taken numerous efforts to strengthen their economic, political and trade relationships. However, like other countries, both the Korea and India have been facing the widespread defies of the globalization process. Though, both countries have to act in response to shifting epoch. Korea and India having prospective scope for the collaboration with the global economic forums similar to World Trade Organization (WTO), World Bank, and International Monetary Fund (IMF) (Menon and Kim, 2006).

India and Korea have started their trade-related activities in 1974 after the establishment of the Agreement on Trade Promotion and Economic and Technical Cooperation (ATPETC) and thus the Most Favoured Nation (MFN) grade has declared on one another (Swaran Singh and Kim, 1974). Subsequently, these two countries have strengthened their bilateral economic relations by signing in an Agreement on Cooperation in Science and Technology (ACST) in 1976 followed by a Convention on Double Taxation Avoidance (CDTV) in 1985 and Bilateral Investment Promotion /Protection Agreement in 1996. Thus, the commercial relations between the countries have augmented considerably and it was demonstrated with 530 million USD and 10 billion USD during the financial year 1992-1993 and 2006-2007 respectively. As a next stage, an agreement called Comprehensive Economic Cooperation Agreement (CEPA) has passed in 2010 and it spurred the bilateral trade between India and Korea upto 21 billion USD in 2011 and thus achieved 70 percent of growth during the 2010-2011(Money control, 2018). And it further went upto 15.6 billion USD in 2013(Wikipedia 2018; Rohit Patnayak, 2006). The bilateral trades between these countries have gained impetus thus and reached 16.8 billion USD during the financial year 2016-17. In 2017 India has exported goods and services upto 2.91 billion USD to Korea and it was 26 percent higher than previous year trade and imports 8.71 billion USD worth goods and services from Korea and it was 30 percent higher than preceding year trade (Money Control, 2018). Thus India is being the 13th major trade partner of Korea due to the implementation of the CEPA (Embassy of India, 2018). Further, the CEPA helps these two nations to invest more in both ways. Its result around 5 billion USD have invested in India in the year 2017 alone, by the Korea's major players namely Hyundai Motors, KIA Motors, Samsung Electronics and LG. on the other side the Indian major players such as Mahindra& Mahindra, Aditya Birla Group and Tata Motors have invested around 3billion USD in their subsidiary units in Korea (The Economic Times, 2018).

India majorly exports mineral fuels, naphtha, cereals, iron, and steel-related manufactured commodities to Korea. Against to this, the Korea exports automobile parts, communication-related equipments, iron products, petroleum products, lubricant oils, nuclear catalyst, automated gadgets, iron, and steel related products to India (Money control, 2018). Thus both countries have fixed a mark to augment the bilateral trade volume from 20 billion USD in 2017 to 50 billion USD by 2030 and also planned to enhance the existing CEPA with a view to promote the altitudes of the consultations and to enlarge the understanding of the nations. Moreover, both countries have planned to set up more joint ventures in each country by advocating the business people to increase the openings in two

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countries by the trade complementarity. Thus investments in the joint venture especially in SMEs have boosted up to exertion against attaining the bilateral trade volume of 50 billion USD by 2030 (Kamal Narang, 2018).

However, the astuteness of the economic concurrences and associations, large volume of bilateral trades, existing exchange volumes, and the modus operandi between India and Korea, they do not mirror the trade level upto the mark. India's trade with Korea never goes up 480 million USD (Trade Map, 2018) in their notable cases and along with depressed values; it could understand that there are ups and downs in the bilateral trade process. In such a case, there has been no study concentrate on the trade movement between India and Korea. Most of the studies related to India's bilateral trade do not include Korea as trade partner (Sikdar et al., 2006; Tenja et al., 2018; Mohanty, 2014; Rajamohan & Dhanabalan, 2013; Sundarraj & Ambrose, 2014), but, the Korea has mentioned in some studies (Menon & Kim, 2006) that it offers space to India in order to enlarge its comprehensive trade with Asian countries as substitute to conquered the geological absorption of India's foreign trade.

The present study has evolved with two major reasons that, the Korea is a developed market in the Asian region and plays a major role in the global economy. However, the Korea imports more from India and is anticipated to grow further due to advancements and developments in the economy, higher GDP, hasty industrialization and urbanization (Sahoo et al., 2009; Dhanabalan, 2011). Thus, the Korea offers lots of space for India to export more to this highly developed market. The second reason is that India is in need of expanding its export portfolio. Alse & Srinivasan (2008) have mentioned the magnitude of India's export encouragement related activities to grasp the worldwide markets. Further, they have mentioned that India has to discover new global markets for its export promotion, in addition to its existing long-established export terminals. Kallummal (2012) revealed that India is majorly depending on the industrially developed countries for its international trade, which may lead the India economy to depend more on the economic setup of such developed countries. Rao et al., (1999) highlighted that India has to revamp its existing export territories and found new markets from developed countries instead of depending more on developing countries. Tayalskand and Yoon (2014) have assessed the CEPA and concluded that India may focus more on with other international niches like Korea.

It could be concluded from the previous studies that India has to find and expand new markets for its international trade instead of concentrating particular geographic locations. At the same time, both India and Korea have long-aged economic relations and it is expected to grow further. Especially in the Korea's import demand will go higher than now, however, India should expand its trade borders for its exports, and therefore the Korea has to support India by offering new trade mechanism with a view to improving India exports.

Furthermore, the dearth of studies has examined and compared the trade performance between India and Korea. Hence there is a need to understand the trade patterns followed by the countries and opportunities offered by the Korea to the Indian exports. With this backdrop, the present paper has made an attempt for filling up the research gap in the existing literature on the bilateral trade between India and the Korea. For this reason, the study has analyzed the bilateral trade position between India and Korea, and thus it presents the trends

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and changes. Further, the study has utilized the techniques such as trade intensity index (TII), Intra industry trade (IIT) position, and comparative advantage between two countries' trade and thus it brings some practical implications to develop the trade cooperation between India and Korea. As far as the structure of the paper is concerned, the first part deals with the introduction and the bilateral trade trends and changes have presented in the second part of the manuscript. India and Korea's trade composition has analyzed and presented in the third section. TII of India and Korea has presented in the fourth section of the paper. Section five explains the IIT indexes. Trade complementarity position between India and Korea has presented in the sixth part. The last and final part of the manuscript summing up the manuscript and ends with a conclusion.

2. INDIA - KOREA BILATERAL TRADE

Table 1

Trends in India's trade with Korea during the period 2001 to 2017

year	India's export to Korea	% Growth	India's Import from Korea	% Growth	Total Trade	% Growth	Trade Balance	% Growth
2001	457.42	4.00	1136.42	28.09	1593.84	13.09	-679.12	-6.37
2002	623.12	26.59	1256.41	9.54	1879.53	15.19	-633.29	-7.21
2003	663.28	6.05	2409.17	47.84	3072.45	38.82	-1745.89	63.72
2004	970.00	31.61	3363.99	28.38	4333.99	29.10	-2393.99	27.07
2005	1519.55	36.16	4412.44	23.76	5931.99	26.93	-2892.89	17.24
2006	2321.99	34.55	4891.83	9.79	7213.82	17.76	-2569.84	-12.57
2007	2462.50	5.70	5437.73	10.03	7900.23	8.68	-2975.23	13.62
2008	3773.31	34.73	8350.67	34.88	12123.98	34.83	-4577.36	35.00
2009	3772.26	-0.02	8229.75	-1.46	12002.01	-1.01	-4457.49	-2.68
2010	3634.46	-3.79	9922.31	17.05	13556.77	11.46	-6287.85	29.10
2011	4549.86	20.11	12362.47	19.73	16912.33	19.84	-7812.61	19.51
2012	4076.36	-11.61	13675.09	9.59	17751.45	4.72	-9598.73	18.60
2013	4495.54	9.32	12426.66	-10.04	16922.2	-4.90	-7931.12	-21.02
2014	4794.85	6.24	13437.25	7.52	18232.1	7.18	-8642.4	8.23
2015	3609.63	-32.83	13087.66	-2.67	16697.29	-9.19	-9478.03	8.81
2016	3465.41	-4.16	12214.05	-7.15	15679.46	-6.49	-8748.64	-8.33
2017	4370.07	20.70	16111.06	24.18	20481.13	23.44	-11741.00	25.48

Source: Trade Map-International Trade Statistics (Available at https://www.trademap.org/tradestat/Bilateral) ***Note:*** Figures in the brackets indicates percent share of India's export to and Import from Korea. Figures in the brackets are calculated by the authors based on the Trade Map data.

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Table 1 presents the bilateral trade position between Indian and Korea from 2001 to 2017. As far as India's exports to Korea concerned, it was 457.42 million USD in 2001 and it has grown upto 4370.07 million USD in 2017. Even though, there are ups and downs in the annual growth rate over the previous year. During the 17 years study period, India has recorded its highest annual exports growth rate 36.16 percent in the year 2005 and the highest negative growth rate of -32.83 percent was found in 2015 and the negative trend continues to the consecutive year 2016 upto -4.16 percent. The negative trend has changed in 2017 with the abrupt increase in the exports upto 20.70 percent worth of 4370.07 million USD.

On the other side, it could see from India's imports from Korea, it has recorded a relatively stable growth rate during the study period. India's imports rose from 1136.42 million USD in 2001 to around 16111.06 million USD in 2017. Though India's imports from Korea increased year on year gradually from 1136.42 million USD in 2001 to 8350.67 million USD in 2008, there were declines in 2009, 2013, 2015 and 2016. Thus it is awfully understood that India's imports from Korea have extreme larger than India's exports to Korea and its results lots of trade surplus being favour of Korea. It is also obvious that in the year 2017 seems to be a significant one, since India's export to and imports from the Korea have registered sudden growth rates valued at 20.70 and 24.18 percent, respectively over the previous year.

2.1 Composition of Trade between India and Korea

The composition of trade between India and Korea has examined to understand better, the bilateral trade pattern between the countries. For assessing the trade pattern of the countries, the Standard International Commodity Classification (SITC Revision IV) has been used. And it has recommended by United Nations Comtrade Database to use in international trade-related researches extensively (United Nations Publications, 2006).

Table 2

Percent Distribution of Indian Exports to Korea by Main Commodity Group

SITC Codes	Product classifications	2002	2004	2006	2008	2010	2012	2014	2016
0	Food and live animals	3.18	7.00	5.63	1.91	2.33	3.19	6.58	7.66
1	Beverages and tobacco	0.70	2.32	4.93	2.02	3.57	3.37	5.20	5.83
2	Crude materials, inedible, except fuels	0.80	5.24	9.15	8.51	8.66	11.39	11.12	9.46
3	Mineral fuels, lubricants related materials	26.59	23.33	29.14	41.49	39.17	32.12	27.54	24.46
4	Animal and vegetable oils, fats and waxes	0.71	1.26	0.35	1.01	2.22	1.68	0.99	0.95
5	Chemicals and related products, n.e.s	10.50	19.27	16.34	10.49	12.51	18.44	16.47	18.64
6	Manufactured goods	35.56	18.00	16.83	14.47	16.1	14.19	16.04	17.65

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7	Machinery and transport equipments	11.85	13.48	12.07	12.92	10.17	11.43	11.54	11.69
8	Miscellaneous manufactured articles	9.08	9.00	3.51	3.91	3.06	3.19	4.52	3.66
9	Not classified elsewhere	1.03	1.10	2.05	3.27	2.21	1.00	0.00	0.00
	Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source: The statistics are derived from Trade Map-International Trade Statistics (Available at https://www.trademap.org/tradestat/Bilateral) and used STIC revision IV, ***Note:*** All values are in percentage

It could understand clearly from the Table 2 that composition of exports made by India to Korea, and it has been commanded by mineral fuels (STIC 3), chemical and related products (STIC 5), manufactured goods (STIC 6), and machinery and transport equipment (STIC 7). These four commodity groups together accounted for around 72 percent of the total exports made by India to the Korea in 2002 and the same trend has been continued till 2016 with slight ups and downs. On the other side, the STIC 4 group Animal and vegetable oils, fats and waxes' trade was low compared with overall trade and further its trade volume was declined in 2014 and 2016.

The export volume of food and live animals (STIC 0) seems to be ups and downs, and its demand has been increasing year on year from 2014 to 2016. It could also understand from the table that the Korea's demand for the mineral fuels related products (STIC 3) have been increased across the period. In the same manner, chemicals and related products' (STIC 5) demand in Korea has been increased year on year. Thus it could clear from this India attract major market share in Korea for these kinds of products, by which it may increase its bilateral trade with Korea in prospect by these commodity groups.

Table 3

Percent Distribution of India's Imports from Korea by Main Commodity Group

SITC Codes	Product classifications	2002	2004	2006	2008	2010	2012	2014	2016
0	Food and live animals	0.02	0.01	0.00	0.00	0.02	0.07	0.00	0.00
1	Beverages and tobacco	0.00	0.00	0.00	0.03	0.01	0.01	0.02	0.01
2	Crude materials, inedible, except fuels	8.35	4.18	2.95	3.71	4.03	4.52	4.25	3.13
3	Mineral fuels, lubricants related materials	0.00	0.02	6.6	8.32	6.29	6.49	6.66	5.17
4	Animal and vegetable oils, fats and waxes	0.08	0.04	0.00	0.00	0.05	0.08	0.06	0.04
5	Chemicals and related products, n.e.s	11.17	6.91	7.66	10.91	15.92	17.23	19.7	17.53

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6	Manufactured goods	8.96	7.13	12.24	16.96	16.07	16.58	16.74	16.09
7	Machinery and transport equipments	68.67	81.31	68.35	58.06	53.18	50.07	50.44	56.71
8	Miscellaneous manufactured articles	0.26	0.13	0.14	0.12	0.3	0.23	0.26	0.46
9	Not classified elsewhere	2.49	0.27	2.06	1.89	4.13	4.72	1.87	0.86
	Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source: The statistics are derived from Trade Map-International Trade Statistics (Available at https://www.trademap.org/tradestat/Bilateral) and used STIC revision IV, ***Note:*** All values are in percentage

Table 3 presents the details of the composition of commodities imported by India from Korea from 2002 to 2016. It could note from the table that the Machinery and transport equipments (STIC 7) have the highest trade volume than the other commodities. Followed by, chemicals and related products (STIC 5) and manufactured goods (STIC 6) have dominated India's total imports from Korea, and these three commodity groups together having 87 percent of total exports made by the Korea to India. From the overall observation, it could see that India has started to import the beverages and tobacco (STIC 1) related commodities from 2008 onwards with low trade volume. Trade in machinery and transport equipments (STIC 7) has dominated the Korea's export to India year on year, and its growth was 68.67 percent in 2002 and 56.71 percent in 2016. On the other side, the demand for the manufactured goods (STIC 6) has also been increased year on year gradually and it was 8.96 percent in 2002 and 16.09 in 2016. Therefore it could observe from this the demand for the manufactured goods strong in India. Thus all these commodity groups have offered the chance to Korea to increase its bilateral trade in the future, while other commodity groups have maintained their nominal shares in the total trade.

2.2 Trade Intensity

There are statistical indices available to compute trade position between the two countries. However, the trade intensity technique seems to be a suitable one to measure the same (Hatab & Xuexi, 2010; Sundarraj & Ambrose, 2014). The trade intensity index was developed by Kojima (1964) and thus it measures one county's trade with another with the proportion of another country's share in world trade (Sundarraj & Ambrose, 2014).

The trade intensity index appears in two forms such as export intensity and import intensity and it can be explained as follows:

$$\mathrm{XII}_i = \frac{x_{ij}/X_{iw}}{M_{jw}/(M_w - M_{iw})} \quad [1]$$

and:

$$\mathrm{MII}_i = \frac{m_{ij}/M_{iw}}{X_{jw}/(X_w - X_{iw})} \quad [2]$$

Where XII_i denotes country *i*'s export intensity index, MII_i denotes country *i*'s import intensity index, x_{ij} is the country *i*'s exports to the country *j*, X_{iw} express the country *i*'s total

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exports to the world, M_{jw} mentioned the country *j*'s total imports from the world, Mw denotes world's total imports, M_{iw} indicates country *i*'s total imports from the world, m_{ij} is the country *i*'s import from the country *j*, Xjw is the country *j*'s total exports to the world, Xw world's total exports, and *i* and *j* represent India and Korea, in that order.

Export as well as import intensity indices mirrors that the proportion of country *i*'s trade with country *j* in relation to the share of world trade intended to the country *j* (Wu & Zhou, 2006). Trade intensity index values range from 0 to 1 or 0 to 100 when multiplied with 100. In this case, if the value is 0, it denotes that there is no trade relationship between the partner countries. Contrarily, if the value is 1, it means there is a high trade relationship between the partner countries (Sundar Raj & Ambrose, 2014). Thus an index of larger (lesser) than the unity has been interpreted as an indication of greater (smaller) than the expected trade flow between the two nations concerned (Wu & Zhou, 2006; Hatab & Xuexi, 2010).

Table 4
Trade Intensity between India and Korea

Intensity	2006	2008	2010	2012	2014	2016
Export Intensity						
India to Korea	0.63	0.59	0.57	0.47	0.51	0.47
Korea to India	1.12	1.05	1.02	0.78	0.87	0.94
Import Intensity						
India from Korea	0.78	0.85	0.89	0.93	0.87	0.89
Korea from India	1.11	0.71	0.79	0.74	0.69	0.72

Source: The statistics are derived from Trade Map-International Trade Statistics (Available at https://www.trademap.org/tradestat/Bilateral) and used STIC revision IV, ***Note:*** All values are in percentage

Table 4 presents that India's export and import intensity indices with one exception are lesser than the unity, it means that India's trade with Korea is less than it should. Thus it could understand that India has a great scope to expand its trade level with Korea. The table also explains that Korea's export to India was more than the unity from 2006 to 2010; however, from 2012 to 2016, the volume has reduced gradually. It means the Korea has scope to export more in the future trade.

In particular, India has imported relatively more from Korea in the year 2012. Thus, India is flattering Korea's major export market, but the Korea is not India's major export market.

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2.3 Intra-Industry Trade

Dramatic increase in Intra –industry trade (IIT) is one of the important feature that associated with the trade. With a view to provide estimation, Grubel and Lioyd (1975) have proposed the conventional IIT index and the same have been computed by using the following formula:

$$IIT_{ic} = \frac{x_{ic}+m_{ic}-|x_{ic}-m_{ic}|}{x_{ic}+m_{ic}} \quad [3]$$

Where IIT_{ic} denotes the index of intra industry trade in commodity group c for the country *i*, while x_{ic} indicates the exports' value of the commodity group c by country *i*, and the m_{ic} is the imports' value of the commodity group c by country *i*. The *IIT* index has a value range from 0 to 1 or 0 to 100 in percentage when multiplied with 100 (Hamilton & Kniest, 1991; Greenaway et al., 1994; Brulhart , 994). The highest values imply the larger trade between the firms in the same industry. Table 5 reveals that the commodity groups of the STICs 3, 5, 6 and 7 at two digit level having most IIT value. However the other five STIC groups such as 33, 03, 99, 04 and 27 are also having higher IIT values calculated by using 2016 trade statistics.

Table 5
Intra Intensity Trade Indices

Code	Description	IIT
33	Petroleum, petroleum products and related materials	0.893
67	Iron and steel	0.848
51	Organic chemicals	0.836
65	Textile yarn, fabrics, made-up articles, and related products	0.806
77	Electrical machinery, apparatus and appliances, and electrical parts	0.763
54	Medicinal and pharmaceutical products	0.748
99	Rubber manufactures	0.710
74	General industrial machinery and equipment, and machine parts,	0.699
77	Electrical machinery, apparatus and appliances, and electrical parts	0.675
66	Non-metallic mineral manufactures	0.642
03	Fish, crustaceans, mollusks and aquatic invertebrates and preparations	0.637
89	Miscellaneous manufactured articles	0.596
04	Cereals and cereal preparations	0.581
27	Crude fertilizers, and crude minerals	0.563
09	Miscellaneous edible products and preparations	0.521
69	Manufactures of metals	0.496
84	Articles of apparel and clothing accessories	0.452
26	Textile fibers	0.436
21	Hides, skins and fur skins, raw	0.362
52	Inorganic chemicals	0.348
08	Feeding stuff for animals	0.314

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2.4 India – Korea Comparative Advantage

The revealed comparative advantage (RCA) has calculated to evaluate the trade competitiveness of the particular commodity groups of each country. The RCA was introduced by Bela Balassa and Mark Noland (1965) and it is often calculated by using the following formula:

$$\mathrm{RCA}_{ic} = \frac{x_{ic}/X_{iw}}{x_{cw}/X_{w}} \qquad [4]$$

Where RCA_{ic} denotes the revealed comparative advantage index of the commodity group c for the country *i*, x_{ic} is the value of exports of the commodity group c by country *i*, X_{iw} indicates the total exports value of the country *i*, x_{cw} is the world exports of the commodity group c, and X_{w} is the total value of the world exports. The country *i* would have a comparative advantage in exporting the commodity group c when the value of the RCA_{ic} is greater than unity, it means that, when the country *i*'s export share of the commodity group c is larger than the world export share of the same commodity group (Dulum, Laursen, & Villumsen, 1998; Laursen, 1998). On the other hand if the RAC_{ic} is lesser than unity it means that the country *i* have a comparative disadvantage.

Table 6

India - Korea comparative advantage indices

STIC code	Description	India				Korea			
		2010	2012	2014	2016	2010	2012	2014	2016
0	Food and live animals	0.076	0.192	0.281	0.316	0.521	0.846	0.314	0.025
1	Beverages and tobacco	0.013	0.009	0.315	0.168	0.028	0.041	0.407	0.021
2	Crude materials, inedible, except fuels	0.933	0.635	0.892	0.984	0.659	0.744	0.638	0.581
3	Mineral fuels, lubricants related materials	3.426	2.410	2.691	2.273	0.752	0.986	1.013	0.941
4	Animal, and vegetable oils, fats and waxes	0.071	0.069	0.031	0.029	0.142	0.084	0.061	0.005
5	Chemicals and related products, n.e.s	1.938	2.421	1.436	2.728	1.134	1.923	2.160	1.986
6	Manufactured goods	2.016	1.605	2.581	3.014	2.841	2.990	3.103	2.510
7	Machinery and transport equipments	1.238	1.414	1.116	1.187	5.462	4.973	4.921	6.418
8	Miscellaneous manufactured	0.98	1.00	1.35	1.01	0.97	1.26	1.27	1.95

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	articles	4	1	1	6	1	0	3	3
9	Not classified elsewhere	0.706	0.634	0.371	0.601	0.797	0.821	0.204	0.006

Source: The statistics are derived from Trade Map-International Trade Statistics (Available at https://www.trademap.org/tradestat/Bilateral) and used STIC revision IV, ***Note*:** All values are in percentage

It is clear from the Table 6 that India mostly having the comparative advantage in mineral fuels, lubricants related materials (STIC 3), chemicals and related products (STIC 5), manufactured goods (STIC 6) and Machinery and transport equipments (STIC 7). It is also understood from the table that the Korea's comparative advantage mostly lies in the commodity groups of STIC 5, 6, 7, and 8. Thus it is clear from the table that both India and Korea have revealed the comparative advantage in chemicals and related products (STIC 5), manufactured goods (STIC 6) and machinery and transport equipments (STIC 7) with some competition in the mentioned areas. Thus based on the calculations with the high aggregate level the conclusion has arrived. However, both India and Korea may have a comparative advantage in various commodity groups at a more disaggregate level (Balasubramanyam and Wei, 2005). Moreover, in several cases the comparative advantages of both countries have declined in fact.

Further, IIT indices mentioned in Table 5 shows that there may be high IIT in the commodities, in which India and Korea may have a comparative advantage. Thus, it is noted that India and Korea's further bilateral growth is possible only when the countries utilize their own comparative advantage. Hence, Table 6 advocates that, since two countries' comparative advantage having no overlaps in some areas, both India and Korea do not compete one with another and certainly, both countries may increase their two-sided trade in future.

3. Summary and Concluding Remarks

India has been maintaining long aged trade relations with Korea for a period of more than a half century. On the other hand, both countries have realized an extraordinary economic growth in recent years and it also augments the economic position of the two nations in the world. And this possible growth has been achieved by means of the efficient bilateral between these two nations. It is noted that in the year 2017 the bilateral trade volume between the countries was 20481.13 billion USD, and it is an augment of 23.44 percent than 2016 (see Table 1). As the reforms made in the existing CEPA with a view to expanding the trade between the countries, the Early Harvest Package (EHP) setup was made on July 2018(The Times of India, 2018). As per the EHP, the Korea has reduced the import duties for 11 commodity groups, and thus it is paving a way for the further growth of bilateral trade between the nations. In adding together, a further increment in the trade volume is also determined by various factors.

In supporting the statement, the trade intensity indices calculated in the manuscript shows that India and Korea not trading with each other at a level as high as it should be.

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Hence it could note that there is great possibility for further development in the bilateral trade between the nations. With a view to getting better economic cooperation and higher bilateral trade, the policy makers from India and Korea are working together. Diplomatic and the consultations tie-ups between the economies are better than at any time from 1962 (Money Control, 2018). This is because of the visit made by the Korea's president Moon Jae-in to India on July 2018, reduced duties on 11 commodity groups and changes also have made in the existing CEPA to expand its coverage (The Times of India, 2018).

Secondly, since there are overlaps in the comparative advantage of the commodity groups of each country, the further development in the mutual trade between the countries will be possible, only when the nation utilize the comparative advantage by itself and it is clear from the calculations made in Table 6. On the other hand, the countries can also increase their bilateral trade where the comparative advantage in has no overlap. Further the IIT also having the possibility for increasing its level in some areas, where India and Korea competing with each other.

Table 7
Structure of Indian and Korea's economies GDP (in percent)

Year	India			Korea		
	Primary	**Industry**	**Services**	**Primary**	**Industry**	**Services**
2011	18.52	32.50	48.96	2.29	34.85	53.66
2012	18.25	31.73	50.00	2.23	34.59	54.03
2013	18.64	30.75	50.59	2.13	35.02	54.02
2014	18.02	19.12	51.84	2.12	34.71	54.35
2015	17.45	29.58	52.96	2.09	34.89	54.04
2016	17.32	29.01	53.66	1.93	35.13	53.75

***Source*:** India's GDP data are drawn from Statistics times; and Korea's GDP data drawn from Statista

Thirdly, in some areas, both India and Korea have balanced their trade with each other. India has domination in the primary sector than the Korea (Table 7). However, Korea has relatively more GDP in Industry and Services sector than India. Thus each country has specialized in different areas, and in this way, two countries can exchange their ideas, experiences, and lessons for mutual development. Therefore, Korea can learn from India to promote its primary sector, and India can improve its competitiveness in the Industry and services sectors. In terms of Industry and services sectors' improvement, Korea may offer a replica to India for its growth reference.

At last, it could conclude that the existing CEPA has played a major role in the bilateral trade between India and Korea from its inception. And now the CEPA has upgraded in July 2018 on the eve of Korea's prime minister Moon Jae-in's visit to India. As a result of

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the updates made in the existing CEPA, Korea has reduced import duties to India's 11 tariff lines (Kirtika Suneja, 2018). Thus, both India and Korea have set a goal to augment the bilateral trade upto 50 billion USD by 2030 (Business line, 2018). Hence, it is believed that the updated CEPA will boost the bilateral trade between the countries.

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