International Journal of Education, Modern Management, Applied Science & Social Science (IJEMMASSS)
ISSN : 2581-9925, Volume 01, No. 03, July - September, 2019, pp.18-26

INTRA INDUSTRY TRADE OF INDIA-HONG KONG WITH REFERENCE TO MANUFACTURED PRODUCTS

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ABSTRACT

Foreign trade provides opportunity to the developing economies to come from fringes to the mainstream of World Trade. Among developing economies, East Asian Economies are emerging as the new destination of trade for whole of the world as well as for the Asian economies. India has a significant trade relation with East Asian Countries such as China, Japan, Hong Kong and South Korea which collectively recorded more than 10% share in India's exports and imports while Hong Kong alone have a total trade of 1634.6 billion rupees in the year 2017-18 with India. Hong Kong has recorded 4.84% share in India's total exports and 2.29% in India's total imports for the year 2017-18. The present paper tries to measure Intra industry trade among India and Hong Kong for the study period 1996-97 to 2017-18. The paper is based on two-digit level data for India's manufactured exports and imports to and from Hong Kong. The compound annual growth for whole of the study period revealed that the project goods; some special uses (98) and furskins and artificial fur, manufactures thereof (43) recorded highest growth rate in India's total manufactured exports to and Fertilizers (31) recorded highest growth rate in India's total manufactured imports from Hong Kong. The manufactured goods such as Natural Pearls (71), Organic Chemicals (29), Raw Hides and Skin (41), Electrical Machinery and Equipment (85) and Cotton (52) appeared as top four exports to and imports from Hong Kong for maximum years of the study Period. The combined share of all these top four goods remained more than 70% for the considered study period. Over the years, 1996-97 to 2017-18, India- Hong Kong weighted IIT increased from 25.25 to 74.87 for 68 two-digit level (HS Codes) Manufactured Products. For the year 1996-97, Nine products have recorded IIT more than 70% whereas fifteen products have recorded IIT more than 70% in the year 2017-18.

Keywords: *Foreign Trade, Developing Economies, Electrical Machinery and Equipment.*

Introduction

Foreign Trade plays an important role in improving Economic growth, employment generation and poverty eradication. It includes inward and outward movement of goods and services that creates an absolute gain for the trading partners involved in this process. Developing Countries are improving their economies with the tool of foreign Trade. India also emerged as the fastest growing economy by partnering with other/Asian economies of the world. India and Hong Kong have been trading with each other since the middle of 19th century. Among major East Asian Economies, Hong Kong has become an important market for India's exports and imports, with 4.84% and 2.29% share in India's total exports and total imports respectively, during the year 2017-18.

Intra-industry Trade (IIT), has drawn much attention in the last two decades around the Asian economies due to increasing trade among these economies. It reflects the vertical specialisation among the industries. The countries are completely specialized in different product varieties. Trade in these product varieties referred to as "Intra-Industry Trade (Feenstra,2002). Conventionally, it is believed that Intra Industry trade occurs among the developed countries. However, the work of researchers shows that

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this phenomenon is emerging even in the developing Asian Countries. It is seen that India's IIT is largely with Asia and Europe (Burange and Chaddha,2007). India's focus is grown to promote manufactured sector with different kind of Promotional schemes. The present paper is focused on India-Hong Kong Intra Industry Trade in manufactured products. The Present paper is divided into four sections. Section I consists of Review of Literature, Section II deals with Database and Methodology, Section III deals with analysis of compound annual growth and estimation of India- Hong Kong IIT in manufactured products. Section IV includes conclusion.

Review of Literature

This section provides insight into the various studies based on Intra industry trade among different Countries. Some of the studies are discussed as:

Bhattacharyya (2002) discussed the vertical IIT and Horizontal IIT in eighteen Asian and Latin American Less Developed Countries which depicted that Vertical IIT dominated Horizontal IIT in the considered years(1990 to 1992). Veeramani (2004) concluded that Intra Industry trade in manufactured products has increased during post-liberalization Period. Chemsripong et.al. (2005) studied the determinants of IIT in pre-APEC era and post-APEC era for the period 1980-1999. The paper concluded that IIT was negatively related with disparity in economic development in pre-APEC era and positively related with economic size in post-APEC era for the Thailand and other APEC countries.

Meenu (2015) studied Intra industry trade between India and UK in manufactured products during 1996-97 to 2015-16. The paper concluded that among 68 manufactured products, Natural and cultured pearls etc. (HS code 71), Nuclear Reactors etc. (84) and Electrical machinery and equipment etc. (85) appeared in top exports and imports with more than 50% value for IIT.

Otsuka (2016) revealed that the FDI played a biggest role in determining Intra Industry trade from Japan especially in East and South East Asia.Kotcherlakota and Lundeen (2018) found that Nebraska's Inter- industry trade has increased with China, India and Japan than Intra industry trade for the years 2000 to 2017.

Aditya and Gupta (2019) revealed that India's trade is dominated by Horizontal IIT than Vertical IIT, but it starts declining over the years 1978-2013.

Database and Methodology

The Present Paper used the two digit level data of 71 items for India's manufactured Exports to and imports from Hong Kong collected from Exports and Import data bank, DGCIS, Ministry of Commerce and Industry, Government of India to measure the IIT in manufactured products between India and Hong Kong over the years 1996-97 to 2017-18.

- The compound annual growth rate has been calculated to analyze the growth of India's exports to and imports from Hong Kong under the study period (1996-97 to 2017-18). Growth rate implies the amount of increase that a variable has achieved within a specific period and context. Growth rates have been calculated by using an exponential function of the following form:

  $Y_t = a b^t e^u$

  Transforming the above equation into linear form:

  Log y_t=log a + t log b+ u loge

  Where Y_t=value of the dependent variable in the year t.

  t=trend variable

  u=disturbance term

  a and b=constants

  The growth rate(r) has been computed for the estimated value of regression coefficient 'b' is follows as:

  r (%) = {antilog (logb)-1} *100

  Or

  r (%) = ($\bar{b}$-1) *100

- The paper used the Grubel-Lloyd Index to calculate the Intra Industry Trade Index with the help of following Formula:

  $$GL_i = [(X_i + M_i) - |X_i - M_i| \div (X_i + M_i)] \times 100$$

Where GL_i is the IIT Index for industry i, X_i and M_i are values of exports and imports in industry i. The value of GL_i ranges from 0 to 100. If the value comes 0, it means no IIT. If GL_i takes a value of 100, it shows all trade is IIT of the concerned country.

The paper also measured the weighted Grubel-Lloyd index to get number for the aggregate measure of IIT(Grubel-Lloyd,1975) for considered 71 groups.

$$GL_i = \{\sum[(X_i + M_i) - |X_i - M_i|] \div \sum(X_i + M_i)]\} \times 100$$

Where GL_i is an aggregate measure of IIT.

Compound Annual Growth rates of India's exports to and imports from Hong Kong

In this Section, Compound annual growth is computed for whole of the study period i.e. 1996-97 to 2017-18. Table 1 provides the annual growth rates for 71 items of manufactured exports to and imports for all two digits from Hong Kong. On comparing compound annual growth rates, the top ten exports to Hong Kong from India are HS Codes 98,43,88,86,80,66,97,93,89 and 33 respectively, for whole of the study period. Also, the HS Codes 97, 86, 89,57,45,31,80,75,60 and 46 appeared in top ten imports list from Hong Kong to India. The commodity HS 86, 97, 89 and 80 are the common exports to and imports from Hong Kong which has recorded highest growth rates during whole of the study period.

It is observed from the table I that the product groups HS Codes 43,80,86,88 and 98 recorded growth rates more than 50% in India's exports to Hong Kong for whole of the study period i.e. 1996-97 to 2017-18. In case of India's imports from Hong Kong, HS Codes 57,86,89 and 97 recorded more than 50% growth rate for whole of the study period. Table I depicted that Product Groups HS Codes: 36,37,47,50 and 51 recorded negative growth rates in India's exports to and imports from Hong Kong during 1996-97 to 2017-18. Also, there are seven product groups (Hs Codes:29,30,32,52,68,72 and 99) which recorded Negative export growth rates but Positive import Growth rates, whereas three Product groups (HS Codes: 66,78 and 79) recorded positive export growth rate but negative import growth rate in India's exports to and imports from Hong Kong.

Intra-industry Trade of India- Hong Kong in Manufactured Products

Table II Provides the levels of IIT for each product group and weighted Average (GL) for 71 two-digit level commodities for the selected years 1996-97, 2001-02,2006-07 and 2008-09 to 2017-18. The aggregate measure of IIT for 71 manufactured commodities recorded 25.25% level of IIT for the year 1996-97, which is increased to 38.51% and 52.06% during 2001-02 and 2006-07 respectively. It shows increasing trend and reached to 74.87% for the year 2017-18, except a steep decline for the year 2011-12 (i.e.3.20%).The analysis of individual manufactured products depicted that out of 71 groups, 40 manufactured product groups (HSCodes:28,30,32,34, 37,40,41,42,43, 45,46,52,53,55, 57,58,61,62,63, 64,68to73,76,80 to 84,87,88,91,92,95,97 and 98) have shown increasing GL_i for the year 2017-18 than 1996-97.

Out of these 40 manufactured products, HS Codes 32,40,43,64,68,70,71 and 72 registered an increase in GL_i by more than 50% during the period 1996-97 to 2017-18. It is depicted from the above analysis that HS Codes 28,37,38,40,82 recorded approximately more than 80% GL_i values than other product groups in the considered study period. Also, product groups 40, 43,57,68,64,70,72 revealed tremendous increase in GL_i values in 2017-18 than 1996-97. It is observed from the table II that out of considered 71 product groups, 24 product groups (HS Codes: 29,33,35,38,39,44,48, 50,51,54, 56,59,60, 65,66,74,75,79,85,87,90,94,96 and 99) have shown declining GL_i during period 2017-18 than 1996-97.Out of these 24 product groups, only five product groups (HS Codes:39,44,48,75 and 85)recorded decline in $GL_i$by more than 50% during the considered study period.

The table II revealed zero IIT between India and Hong Kong in case of only four product groups (HS Codes: 31,47,78,93) for whole of the study period, except of few years. (Table III) For the years 1996-97 and 2001-02,eleven products have shown zero or no IIT. Over the years, no. of products with zero IIT has declined to four (i.e. during 2017-18). Over the considered study period, few numbers of product groups registered highest GL_i(i.e. more than 90%) while large numbers of industries registered lowest GL_i (i.e. less than 20%).The number of product groups increased for having more than 80% and less than 90% GL_i values. Also, the number of industries has increased for having more than 20% and less than 40% GL_i values.

Analysis of compound annual growth rates (CAGR) of top ten exports/imports and GL_i

The comparison of table I and II revealed that the top ten exports to Hong Kong from India (based on compound annual growth rates) are HS Codes 98,43,88,86,80,66,97,93,89 and 33 respectively, for whole of the study period. Out of these top ten exports, HS Codes: 98, 43 and 88 recorded more than 50% GL_i in India's exports to Hong Kong for the year 2017-18 than 1996-97. The product groups HS Codes 97, 86, 89,57,45,31,80,75,60 and 46 appeared in top ten imports list from Hong Kong (based on compound annual growth rates) to India. Out of these top ten imports, HS Codes: 97 and 57 recorded more than 50% GL_i in India's imports from Hong Kong. Out of top ten exports and imports, the product groups HS Codes: 93 and 31 (based on compound annual growth rates) recorded Zero IIT in India's exports to and Imports from Hong Kong respectively.

Also, it is observed from the paper that product HS Code 88 and 57 appeared in the list of top ten exports and imports respectively, registered more than 80% GL_i in India's exports to and imports from Hong Kong for the recent year of the study period. It is observed that HS Code 28 and 34 are not appeared in top export and import list but both recorded more than 80% GL_i for maximum years of the study period.

Conclusion

The analysis of Intra-industry trade between India and Hong Kong in Manufactured products revealed fluctuating but significant changes of IIT under the given study period. The changes in IIT shows reorganization of factors within the industries. It is noticed that the aggregate level of IIT for 71 two-digit level (HS Code) manufactured product groups have registered an increase approximately by50% and 40 product groups recorded an increase in IIT index by more than 50% during the given study period. There are four product groups (Hs code: 31,47,78,93)for which we found inter-industry trade than Intra-industry trade (due to zero IIT) for the given study period.

It is noticeable that the tremendous increase in IIT index by the product groups 40, 43,57,68,64,70 and 72 revealed potential for India to create possibilities to enhance Intra-industry trade with Hong Kong for these products in future. The product groups 98,43 and 88 recorded maximum export growth, whereas the product groups 97 and 57 recorded maximum import growth along with more than 50% increase in IIT for the considered time period.

The Indian government should focus on strengthening the intra industry trade among product groups having high IIT levels. It can also boost the trade for the product groups 31 and 78 with zero IIT but having more than 10% import and export growth whereas product group 93 with zero IIT recorded more than 10% growth rate in both import and export during the given study period.

India was appeared as third largest export market and seventh largest import source of Hong Kong in 2017.The major export items included Pearls, Precious Stones etc. and Telecommunications, equipment etc. whereas the major imports of Hong Kong were seafood, Coffee, tea, cocoa, spices, vegetables and fruits.(Business Standard,August,2017). Presently, there is no FTA/PTA between India and Hong Kong. So, the visits among India Trade Promotion Organization and Hong Kong trade Development Council can boost and strengthen the bilateral trade relations between these economies.

As quoted by Assistant Executive Director of Hong Kong Trade Development Council (HKTDC) Sophia Chong, "Hong Kong is 'super-connector' that can provide Indian traders a 'vibrant' Platform to do business. Overall, growth in IIT suggests that there is possibility to enhance Intra-Industry trade among India-Hong Kong with special focus on the product groups with more than 50% GLi under the given study period.

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Appendix

Table 1: Compound Annual Growth Rates of India's Exports to and Imports from Hong Kong (1996-97 to 2017-18)(Percentage Form)

HS Codes	Export Growth	Import Growth
28	6.6	9.1
29	-0.5	5.8
30	-1	8.2
31	8.2	43.6
32	-0.4	11.8
33	22.4	20.6
34	10.8	15.5
35	14	23.9
36	-5.3	-7.1
37	-13.3	-5
38	1.1	9.7
39	5.3	13.7
40	5.4	16.1
41	12.3	17.4
42	12.7	23.5
43	76	6.5
44	12.5	0.1
45	12.2	45.4
46	13	33.5
47	-11.7	-37.4
48	6.9	13.4
49	11.4	11.4
50	-5.6	-12
51	-0.7	-0.2
52	-2.4	3.3
53	19.5	0.8
54	6.5	10.6
55	3.8	7.2
56	5.3	12.4
57	7.5	56.3

58	11.8	15.2
59	3.2	18.1
60	0.5	34.3
61	18.4	29.8
62	7.9	15.6
63	5.6	18.7
64	14.3	26.8
65	0.6	41
66	44.7	-3.2
67	6.8	8.2
68	-6	16.1
69	11.5	15.6
70	3.3	16.1
71	17.2	24.5
72	-3	25.6
73	0.5	18.8
74	9.7	10.9
75	17.7	40.2
76	6.7	21.4
78	15	-4
79	5.4	-4.8
80	54.2	40.9
81	7.1	9.8
82	3.2	14.1
83	10	17.2
84	14.8	9.5
85	10.2	20.2
86	59	64.2
87	2.4	34.1
88	62	37.5
89	25.7	58.8
90	14.9	12.9
91	14.6	16
92	3.5	9.4
93	28.8	10.7
94	18.5	28.3
95	8.5	1.6
96	11.8	12.1
97	34.7	96.5
98	82.6	8.4
99	-7.2	16.7

Source: Author's Calculations

Table 2: Grubel-Lloyd Intra-industry trade Index for India-Hong Kong(HS-2 digits)

HS Code	1996-97	2001-02	2005-06	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
28	86.02	84.57	77.84	44.28	63.03	89.17	93.67	62.10	81.06	83.84	77.30	87.30	87.36
29	50.17	19.79	78.10	65.21	56.07	37.97	64.58	62.96	48.83	99.72	90.41	38.06	34.8
30	4.51	2.57	7.73	14.68	16.23	21.49	16.82	10.98	9.58	74.21	18.26	2.62	12.8
31	0.00	0.00	0.00	0.00	0.00	77.25	26.09	0.00	2.85	2.38	0.00	0.00	0.00
32	12.97	11.10	16.39	31.17	30.38	68.63	72.00	41.48	28.58	31.11	48.81	53.56	61.52
33	8.14	44.78	87.98	57.26	26.12	31.80	20.83	22.58	21.08	37.44	32.01	7.76	3.97
34	36.62	63.50	99.96	97.88	74.66	69.50	84.70	78.90	99.90	97.09	97.65	92.13	75.34
35	35.11	96.19	92.68	80.11	15.49	70.61	86.77	84.39	58.92	41.76	60.46	9.87	4.49
36	4.17	0.00	12.45	0.00	43.86	0.00	0.00	1.74	0.00	10.20	43.67	0.00	0.00
37	75.63	84.92	27.29	51.97	81.63	83.87	46.78	27.12	73.12	31.88	67.12	84.26	86.53
38	96.82	94.07	90.56	93.28	91.19	55.24	44.16	69.80	75.37	64.82	63.22	50.07	85.69
39	91.56	68.83	80.50	71.37	72.08	58.45	71.76	77.09	75.59	58.94	40.31	48.42	42.43
40	10.38	77.84	94.36	60.67	79.52	70.28	65.13	59.16	40.83	62.95	75.67	51.41	90.74
41	7.08	2.00	3.97	4.41	3.61	3.57	5.09	4.65	6.56	12.26	17.72	17.17	10.51
42	7.96	12.11	31.86	67.87	54.75	54.61	36.61	37.71	31.43	38.04	50.01	37.28	36.08
43	0.00	82.60	0.00	7.44	0.00	57.05	8.15	5.68	0.00	40.10	91.59	59.41	78.00
44	86.97	28.62	74.16	40.45	60.49	73.96	55.88	87.60	57.12	42.56	5.72	5.68	6.63
45	0.00	0.00	0.00	0.00	0.00	0.00	4.56	71.39	0.00	0.00	0.00	0.00	7.69
46	0.00	0.00	6.56	12.71	0.91	0.00	0.00	0.00	0.00	18.32	19.12	0.00	23.88

47	0.00	0.00	0.00	0.01	0.00	3.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48	78.43	49.65	33.78	14.57	43.88	26.21	8.31	28.30	54.73	56.25	46.88	35.84	25.69
49	11.14	4.96	4.93	51.97	16.77	0.72	25.17	22.75	0.73	4.40	7.64	25.23	14.19
50	63.68	13.51	11.14	2.21	2.58	2.88	32.50	13.54	44.79	99.40	11.10	13.21	31.79
51	15.89	74.94	77.92	39.87	23.26	34.53	97.91	35.70	43.74	18.49	37.12	15.81	9.8
52	5.19	10.21	54.34	47.32	18.29	13.94	0.37	11.57	11.43	20.96	30.85	21.31	32.01
53	53.08	13.01	3.10	92.15	55.79	64.70	9.90	79.12	62.28	42.65	42.10	44.87	73.98
54	83.54	72.67	89.69	98.68	95.38	33.79	47.89	55.80	83.94	68.27	58.82	74.65	68.19
55	60.48	43.68	72.45	88.96	82.31	87.44	75.83	76.47	67.36	69.29	65.55	87.15	95.96
56	51.85	3.49	5.88	4.08	18.47	30.60	25.62	10.82	17.53	6.85	7.83	15.89	14.89
57	3.58	0.50	1.79	44.30	34.21	22.86	37.24	45.87	35.23	35.50	75.77	57.15	86.19
58	7.12	72.00	8.45	8.89	15.84	21.53	35.14	48.04	53.33	19.76	11.01	10.28	16.72
59	52.45	32.9	10.5	14.7	10.1	16.3	2.68	6.26	2.88	7.73	1.78	5.87	7.03
60	38.45	72.17	28.10	2.21	6.57	18.69	20.76	5.10	8.43	2.35	1.49	5.09	1.26
61	5.56	22.71	60.19	55.17	39.93	45.43	89.01	35.09	34.54	66.39	71.62	82.30	51.22
62	4.8	3.03	49.41	44.40	31.62	21.65	15.99	22.36	15.74	14.67	16.37	14.54	28.29
63	5.96	9.19	34.40	8.42	11.21	6.08	79.77	34.22	26.17	18.73	18.92	23.53	24.27
64	9.02	28.21	73.20	78.46	99.49	84.82	25.21	96.57	88.02	85.37	78.85	67.75	87.42
65	30.84	19.05	27.11	33.22	64.08	5.62	0.28	35.65	69.53	55.68	70.33	40.50	24.35
66	37.6	0.00	22.23	3.10	0.85	0.06	16.97	0.00	75.31	68.34	19.57	18.31	1.27
67	2.23	3.77	1.32	1.70	2.02	0.60	15.37	3.74	2.62	1.87	2.18	2.22	5.16
68	1.3	27.93	28.93	69.79	24.15	60.72	2.21	85.16	49.60	65.59	72.36	72.74	84.7
69	15.93	11.15	6.28	8.78	51.48	48.64	16.96	0.59	49.42	31.82	13.14	48.96	57.98
70	10.76	78.00	62.21	62.05	85.73	44.83	87.35	55.22	89.28	86.87	94.23	42.36	88.71
71	24.23	41.86	54.80	96.19	71.93	94.55	0.18	68.09	59.35	50.27	54.91	65.63	79.75
72	9.31	7.76	5.54	83.65	86.69	77.89	0.56	90.35	68.30	77.62	36.61	32.34	75.77
73	37.08	16.74	83.58	72.40	85.17	60.05	96.33	73.07	63.92	73.94	61.14	46.15	45.00
74	44.39	86.41	13.10	10.63	21.50	22.78	60.10	52.50	72.63	97.44	24.30	72.73	41.15
75	84.8	10.1	0.00	48.4	3.46	0.55	0.00	0.00	46.6	22.7	55.2	81.7	6.21
76	3.47	86.03	82.04	73.90	93.90	64.43	5.23	86.11	99.01	57.65	30.69	38.62	15.83
78	0.00	0.00	13.05	0.00	85.35	0.00	0.02	4.97	0.00	0.71	0.00	0.00	0.05
79	4.26	41.70	1.17	98.42	35.45	0.00	45.18	3.97	4.64	0.00	0.78	0.00	1.06
80	0.00	0.00	26.54	22.90	45.00	32.96	10.74	66.80	88.48	9.89	14.83	47.08	29.32
81	39.97	94.04	62.46	90.78	91.84	34.47	12.93	96.50	76.05	18.97	8.22	39.74	77.14
82	61.74	28.69	33.31	55.34	54.86	98.79	99.15	94.76	85.80	51.36	72.85	76.44	80.13
83	15.68	19.61	9.80	5.16	6.70	4.25	26.90	3.14	7.66	4.62	10.25	9.12	20.53
84	61.47	23.83	20.55	20.23	41.14	57.85	73.76	46.30	40.85	53.25	65.53	45.12	90.99
85	86.00	88.67	64.69	78.55	72.88	72.70	47.86	55.26	58.85	49.47	27.75	29.85	33.39
86	34.63	79.82	0.00	29.28	46.78	66.96	0.02	26.68	47.17	44.42	74.52	37.34	36.47
87	11.00	10.01	14.24	90.98	80.98	81.59	9.03	90.20	90.57	51.89	68.84	80.32	31.06
88	48.39	68.73	0.07	92.00	84.68	18.24	34.00	5.30	66.50	28.79	34.53	36.64	97.92
89	0.00	0.00	0.03	39.68	0.00	45.40	0.00	94.77	0.50	0.00	0.00	0.00	0.04
90	81.49	33.45	43.24	43.79	30.22	34.98	72.23	46.09	70.39	55.19	63.01	60.46	68.71
91	16.55	81.02	57.05	22.31	27.54	28.49	28.66	27.73	32.94	39.64	43.53	54.09	34.12
92	45.6	79.80	7.67	25.10	29.56	35.04	0.75	38.66	66.51	63.71	84.04	41.38	61.04
93	0.00	0.00	0.00	0.00	0.00	0.00	26.00	71.55	0.00	0.00	16.24	0.00	0.00
94	58.74	35.62	12.62	14.45	20.52	24.34	41.23	32.19	55.13	16.48	18.92	12.81	11.52
95	30.15	36.15	40.91	82.60	63.55	37.30	47.32	69.83	99.51	47.68	91.81	62.99	43.76
96	49.81	15.84	28.14	23.28	30.15	26.98	29.66	32.39	26.34	28.19	27.91	30.01	28.81
97	0.00	15.83	7.41	18.90	10.97	29.90	9.00	3.87	14.28	2.03	13.92	2.59	28.04
98	0.00	0.00	0.58	51.12	92.18	24.48	19.09	32.79	33.04	17.97	71.92	43.33	54.89
99	92.26	46.87	67.93	33.80	37.44	12.81	0.73	0.35	0.50	98.38	3.81	3.53	76.04
GL	25.35	38.51	51.04	86.54	67.33	86.14	3.20	58.99	52.74	49.24	51.54	61.23	74.87

Source: Author's Calculations

Table 3: Number of Occurrence of product groups (HS two-digit) based on GLI Values

Value of Gli	1996-97	2001-02	2007-08	2017-18
90<x<100	3	3	5	4
80<x<90	6	7	4	8
60<x<80	6	11	11	10
40<x<60	9	6	14	7
20<x<40	10	10	12	17
0<x<20	26	23	20	20
x=0	11	11	5	4

Source: Author's Calculations

Table 4: Commodity Description of Two Digits HS Codes

S. No.	Hs codes	Commodity Description
1	28	Inorganic chemicals; organic or inorganic compounds of precious metals, of rare-earth metals, or radi. Elem. Or of isotopes.
2	29	Organic chemicals
3	30	Pharmaceutical products
4	31	Fertilisers.
5	32	Tanning or dyeing extracts; tannins and their deri. Dyes, pigments and other colouring matter; paints and ver; putty and other mastics; inks.
6	33	Essential oils and resinoids; perfumery, cosmetic or toilet preparations.
7	34	Soap, organic surface-active agents, washing preparations, lubricating preparations, artificial waxes, prepared waxes, polishing or scouring prep.
8	35	Albuminoidal substances; modified starches; glues; enzymes.
9	36	Explosives; pyrotechnic products; matches; pyrophoric alloys; certain combustible preparations.
10	37	Photographic or cinematographic goods.
11	38	Miscellaneous chemical products.
12	39	Plastic and articles thereof.
13	40	Rubber and articles thereof.
14	41	Raw hides and skins (other than furskins) and leather
15	42	Articles of leather,saddlery and harness;travel goods, handbags and similar cont.articles of animal gut(othrthn silk-wrm)gut.
16	43	Furskins and artificial fur, manufactures thereof.
17	44	Wood and articles of wood; wood charcoal.
18	45	Cork and articles of cork.
19	46	Manufactures of straw, of esparto or of other plaiting materials; basketware and wickerwork.
20	47	Pulp of wood or of other fibrous cellulosic material; waste and scrap of paper or paperboard.
21	48	Paper and paperboard; articles of paper pulp, of paper or of paperboard.
22	49	Printed bookds, newspapers, pictures and other products of the printing industry; manuscripts, typescripts and plans.
23	50	Silk
24	51	Wool, fine or coarse animal hair, horsehair yarn and woven fabric.
25	52	Cotton.
26	53	Other vegetable textile fibres; paper yarn and woven fabrics of paper yarn.
27	54	Man-made filaments.
28	55	Man-made staple fibres.
29	56	Wadding, felt and nonwovens; spacial yarns; twine, cordage, ropes and cables and articles thereof.
30	57	Carpets and other textile floor coverings.
31	58	Special woven fabrics; tufted textile fabrics; lace; tapestries; trimmings; embroidery.
32	59	Impregnated, coated, covered or laminated textile fabrics; textile articles of a kind suitable for industrial use.
33	60	Knitted or crocheted fabrics.
34	61	Articles of apparel and clothing accessories knitted or corcheted.
35	62	Articles of apparel and clothing accessories not knitted or crocheted.
36	63	Other made up textile articles; sets; worn clothing and worn textile articles; rags
37	64	Footwear, gaiters and the like; parts of such articles.
38	65	Headgear and parts thereof.
39	66	Umbrellas, sun umbrellas, walking-sticks, seat-sticks, whips,riding-crops and parts thereof.
40	67	Prepared feathers and down and articles made of feathers or of down; artificial flowers; articles of human hair.
41	68	Articles of stone, plaster, cement, asbestos, mica or similar materials.

42	**69**	Ceramic products.
43	**70**	Glass and glassware.
44	**71**	Natural or cultured pearls, precious or semiprecious stones, pre. metals, clad with pre. metal and artcls there of limit.jewlry;coin.
45	**72**	Iron and steel
46	**73**	Articles of iron or steel
47	**74**	Copper and articles thereof.
48	**75**	Nickel and articles thereof.
49	**76**	Aluminium and articles thereof.
50	**78**	Lead and articles thereof.
51	**79**	Zinc and articles thereof.
52	**80**	Tin and articles thereof.
53	**81**	Other base metals; cermets; articles thereof.
54	**82**	Tools implements, cutlery, spoons and forks, of base metal; parts thereof of base metal.
55	**83**	Miscellaneous articles of base metal.
56	**84**	Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof.
57	**85**	Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts.
58	**86**	Railway or tramway locomotives, rolling-stock and parts thereof; railway or tramway track fixtures and fittings and parts thereof; mechanical
59	**87**	Vehicles other than railway or tramway rolling stock, and parts and accessories thereof.
60	**88**	Aircraft, spacecraft, and parts thereof.
61	**89**	Ships, boats and floating structures.
62	**90**	Optical, photographic cinematographic measuring, checking precision, medical or surgical inst. And apparatus parts and accessories thereof;
63	**91**	Clocks and watches and parts thereof.
64	**92**	Musical instruments; parts and accessories of such articles.
65	**93**	Arms and ammunition; parts and accessories thereof.
66	**94**	Furniture; bedding, mattresses, mattress supports, cushions and similar stuffed furnishing; lamps and lighting fittings not elsewhere specified or inc
67	**95**	Toys, games and sports requisites; parts and accessories thereof.
68	**96**	Miscellaneous manufactured articles.
69	**97**	Works of art collectors' pieces and antiques.
70	**98**	Project goods; some special uses.
71	**99**	Miscellaneous goods.

Source: Export Import Data Bank,DGFT.