India's International Trade of Telephone Sets and Apparatus – Some Insights

Section 1: Introduction

The study uses trade indicators to analyze merchandise export and import data in a way that should be useful for the purpose of formulation of policy. The indicators provide a glimpse of the trade patterns of the world and the performance of India in comparison to various other countries. They have been used in the case of India's exports of Electric apparatus for line telephony, telegraphy, to indicate the possible directions policy may take.

In the Electronic and Mobile Phone Industry, the Union Budget 2020-21 announced customs duty rationalization measures such as withdrawal of few exemptions on parts of chargers and sub-parts of mobiles. Also, some parts of mobiles were announced to move from 'nil' rate to a moderate 2.5%.This was done with a view to greater domestic value addition with reduction in imports and higher exports of items such as mobiles and chargers.

The data used in this study has been sourced from the United Nations Comtrade Database and the Export Import Data Bank, Department of Commerce. Computations are primarily based on data at the ITC-HS two-digit level (HS-85) and ITC-HS four-digit level (HS-8517) and the latest finalized data available on the UN Comtrade Database up to year 2019. In several cases, trends from 2015 to 2019 have been shown.

Table 1: ITCHS Classification of Telephone Apparatus/Items

ITC HS Code	Name/Description
8517	Name: Electric apparatus for line telephony, telegraphy *Description: Electrical apparatus for line telephony or line telegraphy, including line telephone sets with cordless handsets and telecommunication apparatus for carrier-current line systems or for digital line systems; videophones.*

Section 2: Trends in International Trade i.e. Exports and Imports of Telephones

A glimpse of the top twenty exporters of Electric apparatus for line telephony, telegraphy in the world is given in table 2 below.

Table 2: Exports of Telephone sets and apparatus etc. (ITCHS 8517) in million US dollars

Country	2015	2016	2017	2018	2019
China	212570.06	201364.56	219161.92	240354.41	224069.82
China, Hong Kong SAR	75130.54	75174.43	75933.53	77958.59	74553.13

Viet Nam	31314.33	36101.40	47703.85	53858.34	56358.93
USA	34773.60	33832.95	34026.12	32437.53	30694.48
Rep. of Korea	29855.46	24738.29	15649.31	14260.95	17849.91
Netherlands	14408.53	15105.82	17368.88	18769.38	19092.13
Mexico	15849.53	16459.04	19549.60	17492.23	13025.36
United Arab Emirates	5028.41	4042.59	16348.98	18778.26	21474.17
Germany	11867.98	13241.62	12714.85	13576.72	13340.63
Singapore	10229.93	9751.70	9591.78	10783.70	11443.02
Czechia	5002.23	4778.54	6469.91	9430.54	11115.78
Other Asia, nes	6781.65	6095.83	6977.75	5641.90	7503.75
United Kingdom	4933.80	4999.98	5258.80	4955.42	5122.08
Sweden	5813.08	5429.03	4573.14	4489.71	4634.65
France	4690.19	4466.89	5007.30	5213.19	4022.31
Slovakia	4032.88	3803.25	5080.11	5120.64	4338.22
Japan	4684.18	4286.60	4978.00	3875.51	2934.64
Malaysia	3751.10	3862.66	4000.74	3673.99	4054.88
Thailand	2273.34	2481.44	4227.57	4493.25	3681.54
Hungary	2804.72	3123.16	3295.24	3410.72	3841.54
Others	25967.44	26208.57	27526.98	30293.98	32266.37
Total Export Value	**511762.99**	**499348.34**	**545444.35**	**578868.96**	**565417.34**

Source: Computed from UN Comtrade database

Tables 2 and 3 show the top twenty exporters of Electric apparatus for line telephony, telegraphy and their percentage shares. China, Hongkong, Vietnam, USA, and Rep. of Korea are the top five exporters from 2015 to 2019 covering more than 70 per cent of world exports.

Table 3: Shares of countries in % in world exports of Telephone sets and apparatus etc. (ITCHS 8517)

Country	**2015**	**2016**	**2017**	**2018**	**2019**
China	41.54	40.33	40.18	41.52	39.63
China, Hong Kong SAR	14.68	15.05	13.92	13.47	13.19
Viet Nam	6.12	7.23	8.75	9.30	9.97
USA	6.79	6.78	6.24	5.60	5.43
Rep. of Korea	5.83	4.95	2.87	2.46	3.16
Netherlands	2.82	3.03	3.18	3.24	3.38
Mexico	3.10	3.30	3.58	3.02	2.30
United Arab Emirates	0.98	0.81	3.00	3.24	3.80
Germany	2.32	2.65	2.33	2.35	2.36
Singapore	2.00	1.95	1.76	1.86	2.02
Czechia	0.98	0.96	1.19	1.63	1.97
Other Asia, nes	1.33	1.22	1.28	0.97	1.33
United Kingdom	0.96	1.00	0.96	0.86	0.91
Sweden	1.14	1.09	0.84	0.78	0.82

France	0.92	0.89	0.92	0.90	0.71
Slovakia	0.79	0.76	0.93	0.88	0.77
Japan	0.92	0.86	0.91	0.67	0.52
Malaysia	0.73	0.77	0.73	0.63	0.72
Thailand	0.44	0.50	0.78	0.78	0.65
Hungary	0.55	0.63	0.60	0.59	0.68
Others	5.07	5.25	5.05	5.23	5.71
Total	**100**	**100**	**100**	**100**	**100**

Source: Computed from UN Comtrade database

Similarly, tables 4 and 5 below show the total import values of Electric apparatus for line telephony, telegraphy by the top twenty countries and their percentage shares respectively. The top five importers in the list consist of USA, Hongkong, China, Japan and Germany comprising 45% of the world imports of telephone apparatus.

Table 4: Imports of Telephone sets and apparatus etc. (ITCHS 8517) in million US dollars

Country	**2015**	**2016**	**2017**	**2018**	**2019**
USA	102516.25	105038.64	113272.26	111224.43	101893.50
China, Hong Kong SAR	77875.57	75906.24	76025.15	77140.90	71822.56
China	48418.94	45899.87	47806.01	48891.73	42564.39
Japan	22689.15	23595.95	26119.57	26176.17	24271.67
Germany	20103.26	21440.52	22507.18	24419.28	23005.95
Netherlands	18319.15	18351.08	20351.88	21884.40	22208.59
United Kingdom	17603.68	17013.17	18501.99	20362.15	19911.43
United Arab Emirates	8952.38	9895.10	30294.68	20060.04	22190.18
India	15814.05	14728.01	20609.26	18723.25	13517.58
Viet Nam	11721.01	11990.24	18273.28	17333.87	15957.23
Mexico	14722.62	14611.34	13447.20	14275.56	13641.44
Rep. of Korea	11828.56	12127.46	13310.91	11896.37	12852.25
France	11045.41	11711.82	12897.35	12801.79	12047.52
Canada	9584.48	8996.58	10189.50	11127.24	10802.64
Singapore	8420.58	8354.66	9144.00	10004.57	11325.14
Italy	8055.92	7771.44	8636.98	9512.32	9103.40
Russian Federation	6334.98	6714.97	8393.89	9433.18	9007.08
Australia	7003.95	7263.81	8017.72	8709.62	8191.11
Czechia	5716.58	4791.97	6431.40	9854.18	11486.94
Thailand	6127.24	6376.31	7605.66	7789.01	6105.16
Others	116794.81	108782.48	117821.65	122741.90	119015.46
Total Import Value	**549648.57**	**541361.67**	**609657.53**	**614361.94**	**580921.20**

Source: Computed from UN Comtrade database

Table 5: Shares of countries in % in world imports of Telephone sets and apparatus etc.(ITCHS 8517)

Country	2015	2016	2017	2018	2019
USA	18.65	19.40	18.58	18.10	17.54
China, Hong Kong SAR	14.17	14.02	12.47	12.56	12.36
China	8.81	8.48	7.84	7.96	7.33
Japan	4.13	4.36	4.28	4.26	4.18
Germany	3.66	3.96	3.69	3.97	3.96
Netherlands	3.33	3.39	3.34	3.56	3.82
United Kingdom	3.20	3.14	3.03	3.31	3.43
United Arab Emirates	1.63	1.83	4.97	3.27	3.82
India	2.88	2.72	3.38	3.05	2.33
Viet Nam	2.13	2.21	3.00	2.82	2.75
Mexico	2.68	2.70	2.21	2.32	2.35
Rep. of Korea	2.15	2.24	2.18	1.94	2.21
France	2.01	2.16	2.12	2.08	2.07
Canada	1.74	1.66	1.67	1.81	1.86
Singapore	1.53	1.54	1.50	1.63	1.95
Italy	1.47	1.44	1.42	1.55	1.57
Russian Federation	1.15	1.24	1.38	1.54	1.55
Australia	1.27	1.34	1.32	1.42	1.41
Czechia	1.04	0.89	1.05	1.60	1.98
Thailand	1.11	1.18	1.25	1.27	1.05
Others	21.25	20.09	19.33	19.98	20.49
Total	**100**	**100**	**100**	**100**	**100**

Source: Computed from UN Comtrade database

Tables 6 and 7 below show the top twenty destinations for Indian exports of telephone sets, denoting the values and percentage shares respectively. UAE, USA, Netherlands, Russia and China are the countries which constituted the largest markets for India's telephone exports from 2015-2019 with export-value shares of 45%, 6%, 5%, 11% and 4% respectively in 2019.

Table 6: India's exports of Telephone sets and apparatus etc. (ITCHS 8517) to various countries (in million US dollars)

Partner Country	2015	2016	2017	2018	2019
United Arab Emirates	141.48	200.40	113.77	741.46	1942.65
USA	106.43	159.36	163.62	261.19	241.82
Netherlands	92.88	106.75	123.92	122.58	228.85
Russian Federation	15.59	17.43	0.04	148.01	457.33
China	39.05	82.95	144.95	146.44	151.72
China, Hong Kong SAR	69.81	94.69	101.62	107.20	130.18
South Africa	9.16	10.92	15.23	86.34	179.93
Indonesia	56.52	19.25	57.29	22.85	16.01

Singapore	19.29	27.87	32.57	30.58	38.06
Turkey	2.73	1.16	1.39	2.42	136.69
Malaysia	45.31	29.68	25.07	19.47	19.16
Saudi Arabia	24.30	23.52	24.54	40.01	6.67
Viet Nam	3.43	27.15	46.89	14.02	17.27
Germany	2.24	5.63	4.18	9.55	82.20
Morocco	0.00	2.16	2.18	17.64	73.86
Nepal	2.49	5.73	3.62	5.00	78.69
France	5.56	13.05	13.68	12.66	33.63
Bangladesh	12.05	9.04	11.02	8.15	35.89
Mexico	3.72	6.24	10.94	20.03	34.66
Sweden	12.68	19.88	16.79	19.10	5.34
Others	124.25	128.31	124.57	208.32	375.12
Total Export Value	**788.98956**	**991.1851**	**1037.879**	**2043.02**	**4285.712**

Source: Computed from UN Comtrade database

Table 7: Various countries' share (in %) in Indian exports of Telephone sets and apparatus etc. (ITCHS 8517)

Partner Country	**2015**	**2016**	**2017**	**2018**	**2019**
United Arab Emirates	17.93	20.22	10.96	36.29	45.33
USA	13.49	16.08	15.77	12.78	5.64
Netherlands	11.77	10.77	11.94	6.00	5.34
Russian Federation	1.98	1.76	0.00	7.24	10.67
China	4.95	8.37	13.97	7.17	3.54
China, Hong Kong SAR	8.85	9.55	9.79	5.25	3.04
South Africa	1.16	1.10	1.47	4.23	4.20
Indonesia	7.16	1.94	5.52	1.12	0.37
Singapore	2.44	2.81	3.14	1.50	0.89
Turkey	0.35	0.12	0.13	0.12	3.19
Malaysia	5.74	2.99	2.42	0.95	0.45
Saudi Arabia	3.08	2.37	2.36	1.96	0.16
Viet Nam	0.44	2.74	4.52	0.69	0.40
Germany	0.28	0.57	0.40	0.47	1.92
Morocco	0.00	0.22	0.21	0.86	1.72
Nepal	0.32	0.58	0.35	0.24	1.84
France	0.71	1.32	1.32	0.62	0.78
Bangladesh	1.53	0.91	1.06	0.40	0.84
Mexico	0.47	0.63	1.05	0.98	0.81
Sweden	1.61	2.01	1.62	0.93	0.12
Others	15.75	12.95	12.00	10.20	8.75
Total	**100**	**100**	**100**	**100**	**100**

Source: Computed from UN Comtrade database

In similar vein, tables 8 and 9 show the top twenty destinations for Indian imports of telephone apparatus, denoting the values and percentage shares respectively. China, Hongkong, Vietnam, South Korea and Singapore are the countries from which India imported telephones, in descending order of magnitude of import-values (US$), from 2015-2019 with total import-value share of 86% in 2019.

Table 8: India's imports of Telephone sets and apparatus etc. (ITCHS 8517) from various countries (in million US dollars)

Partner Country	**2015**	**2016**	**2017**	**2018**	**2019**
China	10472.06	10447.44	14665.45	9520.43	5648.34
China, Hong Kong SAR	637.37	600.36	802.68	3014.36	3033.24
Viet Nam	717.21	498.27	673.19	2369.06	1979.68
Rep. of Korea	1430.22	962.43	1695.03	535.69	233.12
Singapore	440.81	449.50	464.44	801.11	697.43
USA	447.33	281.37	354.17	397.27	383.63
Mexico	251.41	290.56	439.56	506.73	335.05
Malaysia	254.82	305.66	299.59	214.15	216.20
Other Asia, nes	154.78	123.80	152.37	242.21	228.11
Israel	168.41	121.84	142.24	188.85	108.60
Thailand	67.10	93.66	176.49	143.06	133.37
Sweden	270.31	44.80	137.80	62.28	28.58
Japan	64.49	91.35	84.85	118.20	102.31
France	38.05	49.72	71.31	165.15	91.26
Germany	62.37	51.12	49.51	63.32	64.37
Netherlands	23.07	46.29	50.63	55.76	70.08
Finland	49.33	52.15	19.87	10.68	15.86
Philippines	25.28	10.83	80.35	20.94	1.99
Canada	23.84	22.59	53.92	18.36	16.27
Poland	28.56	37.67	42.07	12.46	2.50
Others	187.23	146.61	153.76	263.18	127.59
Total Import Value	**15814.05**	**14728.01**	**20609.26**	**18723.25**	**13517.58**

Source: Computed from UN Comtrade database

Table 9: Various countries' share in % in Indian imports of Telephone sets and apparatus etc. (ITCHS 8517)

Partner Country	**2015**	**2016**	**2017**	**2018**	**2019**
China	66.22	70.94	71.16	50.85	41.79
China, Hong Kong SAR	4.03	4.08	3.89	16.10	22.44
Viet Nam	4.54	3.38	3.27	12.65	14.65
Rep. of Korea	9.04	6.53	8.22	2.86	1.72
Singapore	2.79	3.05	2.25	4.28	5.16
USA	2.83	1.91	1.72	2.12	2.84

Mexico	1.59	1.97	2.13	2.71	2.48
Malaysia	1.61	2.08	1.45	1.14	1.60
Other Asia, nes	0.98	0.84	0.74	1.29	1.69
Israel	1.0-6	0.83	0.69	1.01	0.80
Thailand	0.42	0.64	0.86	0.76	0.99
Sweden	1.71	0.30	0.67	0.33	0.21
Japan	0.41	0.62	0.41	0.63	0.76
France	0.24	0.34	0.35	0.88	0.68
Germany	0.39	0.35	0.24	0.34	0.48
Netherlands	0.15	0.31	0.25	0.30	0.52
Finland	0.31	0.35	0.10	0.06	0.12
Philippines	0.16	0.07	0.39	0.11	0.01
Canada	0.15	0.15	0.26	0.10	0.12
Poland	0.18	0.26	0.20	0.07	0.02
Others	1.18	1.00	0.75	1.41	0.94
Total	**100**	**100**	**100**	**100**	**100**

Source: Computed from UN Comtrade database

Section 3: Export Intensity Index

Export Trade Intensity Index (ETII) of a country with respect to an importing country is the share of the exporting country's merchandise going to that particular importing country divided by the share of world exports going to that importing country. In other words, it is the importance of that importing country as a destination for the exporting country's merchandise outflow, as compared to the importance that importing country enjoys as a destination of world exports. But algebraically, it is equal to the exporting country's share in the importer's market as compared to the same country's market share in the world market. Table 10 below shows the indices of some countries with respect to India for ITC-HS Chapter Electrical, electronic equipment, to which telephones belong.

Table 10: Export Trade Intensity Indices for Electrical, electronic equipment (ITC-HS Chapter 85) of Countries w.r.t. India

Countries	**2015**	**2016**	**2017**	**2018**	**2019**
United Arab Emirates	5.79	8.78	6.21	10.77	16.08
USA	1.19	1.19	1.19	1.14	1.25
Netherlands	1.23	1.11	1.04	0.84	0.92
Russian Federation	0.73	1.24	0.66	1.74	3.77
China	0.16	0.24	0.26	0.29	0.36
Germany	1.13	0.99	1.15	1.02	0.84
Japan	0.40	0.40	0.38	0.32	0.23

Source: Computed from UN Comtrade database

Table 10 shows that the Export Intensity Indices of India with UAE, USA , Russia and Germany are greater than 1, implying India gives much more importance to these countries as a destination for its exports of Electrical, electronic equipment than the rest of the world does.

Section 4: RCA and RCII

While looking at the Export Intensity Index is one approach, the other involves the use of information regarding source countries which places high importance on its exports of Electrical, electronic equipment, in terms of value, relative to the importance in world exports; and likewise, also enjoying similar relative importance in the destination country's imports. The first is known as Revealed Comparative Advantage (RCA) and the second Revealed Comparative Import Inclination (RCII). RCA index for a commodity (or commodity group) exported from the source country is higher than 1 if its importance is more in the source country's total exports than in world exports, and vice versa. Similarly, RCII index for the destination country's imports for a commodity (or commodity group) is higher than 1 if its importance is more in the destination country's overall imports than in world imports, and vice versa.

For the year 2019, the RCA of various countries' exports of Electrical, electronic equipment (ITC-HS Chapter 85) is given in table 11 below. India is at disadvantage in supply-side for exports of Electrical, electronic equipment to the world since RCA <1 as seen from table 11 below.

Table 11: RCA of various countries' exports of Electrical, electronic equipment (ITC-HS Chapter 85)

Countries	2015	2016	2017	2018	2019
China	1.80	1.68	1.76	1.98	1.75
Hongkong	3.41	3.28	3.47	4.04	3.65
Viet Nam	2.02			2.64	2.51
USA	0.94	0.89	0.93	0.97	0.86
Rep. of Korea	1.81	1.73	1.90	2.27	1.83
India	0.21	0.20	0.20	0.26	0.31

Source: Computed from UN Comtrade database

Similarity, if the RCII in the destination country is greater than 1 then the country imports Electrical, electronic equipment to an extent more than overall world trends warrant. Therefore, if India seeks to expand its exports, these countries are the preliminary list of options. Table 12 shows the RCII indices of various countries' imports of Electrical, electronic equipment (ITC-HS Chapter 85). Table 12 below shows that Hongkong and China have RCII>1 indicating a higher than average appetite for imports of the commodity that the rest of the world and these countries should thus serve as potent destination markets for India's electrical/electronic goods exports.

Table 12: RCII of various countries' imports of Electrical, electronic equipment (ITC-HS Chapter 85)

Countries	2015	2016	2017	2018	2019
USA	0.95	0.96	0.96	0.95	0.88
Hongkong	3.15	3.26	3.34	3.53	3.42
China	1.90	1.68	1.79	1.84	1.54
Japan	0.95	0.95	0.94	0.91	0.90
Germany	0.79	0.80	0.81	0.84	0.80
India	0.61	0.67	0.68	0.66	0.67

Source: Computed from UN Comtrade database

Section 5: Competitiveness Index and Intra-Industry Trade

The idea of market dominance can be viewed from a different perspective. The competitiveness index of India's export of Electrical, electronic equipment tells how important India's product is (in terms of market value share) with respect to its competitors in a destination country. While an index value greater than 1 is definitely good for India, a value less than 1 shows that it has been overshadowed by the products of other exporters. Table 13 shows the indices of Indian exports as well as other top exporters of Electrical, electronic equipment (China, Hongkong, Vietnam, USA and South Korea) for the top importing countries (USA, Hongkong, China, Japan and Germany). For Indian exports, the index is high only for USA (>1). It has poor values, especially for Hongkong, China and Japan, implying India must step up its game in these importing countries (with index < 1) to compete with other exporters of Electrical, electronic equipment.

Table 13: Competitiveness Indices (Product) of various exporter countries w.r.t Electrical, electronic equipment (ITC-HS Chapter 85)

Competitiveness Index (Product) of Exporter(Reporter) to Importer(Partner) in 2019						
		Partner				
		USA	Hongkong	China	Japan	Germany
Reporter	China	1.53	2.09	N/A	1.96	1.05
	Hongkong	0.01	N/A	0.02	0.01	0.03
	Viet Nam	1.78	0.70	2.06	1.53	0.60
	USA	N/A	0.37	0.46	0.74	0.63
	Rep. of Korea	0.74	1.21	2.91	0.76	0.48
	India	1.14	0.21	0.33	0.25	0.92

Source: Computed from UN Comtrade database

Table 14: Competitiveness Indices (Market) of various exporter countries w.r.t Electrical, electronic equipment (ITC-HS Chapter 85)

Competitiveness Index (Market) of Exporter(Reporter) to Importer(Partner) in 2019						
		Partner				
		USA	Hongkong	China	Japan	Germany
Reporter	China	1.94	1.07	N/A	1.94	2.43
	Hongkong	0.71	N/A	0.45	0.3	2.53
	Viet Nam	2.3	1.4	2.31	1.68	2.45
	USA	N/A	0.74	0.68	0.59	0.83
	Rep. of Korea	1.27	1.32	1.85	0.99	2.26
	India	0.26	0.06	0.22	0.19	0.57

Source: Computed from UN Comtrade database

Intra-industry trade is of importance as it can increase and expand markets. The standard indicator is the Index of Intra-industry Trade (IIT). The index can be calculated within individual sectors as well. Intra-industry trade is generally high in case of the manufacturing sector. An increase in IIT may signify a maturing of this sector, and hence, a regular monitoring of this index may be useful. Intra-industry trade is a common world-wide phenomenon – export and import of the commodities produced by the same industry or sector. The degree to which this occurs is generally measured by the Grubel-Lloyd Index, which is the difference between the exports of the particular sector to a partner country and imports of the products of the same sector from the same partner, divided by the sum of these two, and whole thing obtained subtracted from one.

The following table (Table 15) shows varying degrees of IIT between India and some major telephone traders. The values are very high (>0.9) between India and USA and India and UK, showing greater interdependence (exports and imports by the same sector) in international trade within the same industry. The sources of gains from intra-industry trade between similar economies—namely, the learning that comes from a high degree of specialization and splitting up the value chain and from economies of scale—are not contradictory to the earlier theory of comparative advantage.

Table 15: Intra-Industry Trade in Electrical, electronic equipment (ITC-HS Chapter 85) between India and Some Major Importing Countries in 2019)

IIT between India and Partner Countries (Telephone Items Exporters/Importers)	
Countries	**Grubel-Lloyd Index in 2019**
United Arab Emirates	0.19
USA	0.99
China	0.08
Germany	0.58
United Kingdom	0.96

China, Hong Kong SAR	0.07
Japan	0.15

Source: Computed from UN Comtrade database

Section 6: India's exports to Trading Blocs and associations

This section discusses India's export of Electric apparatus for line telephony, telegraphy (ITCHS 8517) to the trading blocs, namely the EU and the ASEAN, and the members of BRICS. Table 16 shows India's export, in terms of trade value, to the aforementioned trading blocs and associations.

Table 16: India's exports of Electric apparatus for line telephony, telegraphy (ITCHS 8517) to ASEAN, BRICS and EU (in million US $)

(Export Values in US Million $)

	2015-16	2016-17	2017-18	2018-19	2019-20
ASEAN	102.55	151.26	119.31	134.81	97.70
BRICS	67.06	113.40	162.92	384.17	792.99
EU Countries	149.95	180.14	158.15	271.47	511.45

Data is sourced from Export Import Data Bank, Department of Commerce.

Section 7: Indian Exports of Electric apparatus for line telephony, telegraphy

This section analyses the data on Indian exports of Electric apparatus for line telephony, telegraphy at the ITCHS 4-digit level showing YoY growth rate in value in Million US$.

Table 17: Indian exports of Electric apparatus for line telephony, telegraphy (ITCHS 8517) showing YoY growth rate (%) and value in Million US$

S.No.	Country	Values in US$ Million		
		2018-2019	2019-2020	%Growth
1	AFGHANISTAN	0.2	0.08	-58.93
2	ALBANIA	0	0.02	788.89
3	ALGERIA	0.89	0.17	-80.68
4	ANGOLA	0.02	0.01	-61.17
5	ARGENTINA	0.66	0.06	-90.28
6	AUSTRALIA	2.29	3.64	59.31
7	AUSTRIA	0.05	0.04	-22.39
8	AZERBAIJAN	0.02	0	-95.91
9	BAHARAIN IS	0.44	0.12	-72.06
10	BANGLADESH PR	9.82	38.73	294.28
11	BARBADOS	0		
12	BELGIUM	0.89	2.31	159.93
13	MAYOTTE		0.02	

14	BENIN	0		
15	BHUTAN	8.27	10.27	24.28
16	BOLIVIA	0.15	0.06	-59.02
17	BOSNIA-HRZGOVIN		0.1	
18	BOTSWANA	0.22	0.1	-55.88
19	BRAZIL	4.49	3.26	-27.44
20	BRUNEI	0.03	0	-93.41
21	BULGARIA	0.05	0.18	263.39
22	BURKINA FASO	0	0.01	193.33
23	BURUNDI	0.02	1.15	6,912.80
24	BELARUS	0.41	0	-99.78
25	CAMBODIA	0.03	0.04	1.15
26	CAMEROON	0.01	0.01	-11.93
27	CANADA	5.21	7.83	50.09
28	CAPE VERDE IS	0		
29	C AFRI REP	0.03	0	-98.06
30	CHAD	0.03	0.03	-3.17
31	CHILE	0.02	0.85	4,064.22
32	TAIWAN	2.87	5.07	76.48
33	CHINA P RP	136.58	180.59	32.22
34	COLOMBIA	0.93	0.06	-93.99
35	CONGO P REP	0.2	0.23	13.62
36	COOK IS	0.03		
37	COSTA RICA	0	0.01	645.45
38	CROATIA	0	0.04	4,466.67
39	CYPRUS	0.07	0.06	-16.24
40	CZECH REPUBLIC	4.61	51.35	1,013.04
41	DENMARK	0.02	0.06	214.58
42	DJIBOUTI	0.14	0.14	2.35
43	DOMINIC REP	0.06	0	-94.42
44	ECUADOR	0.03	0.02	-3.56
45	EGYPT A RP	13.81	0.36	-97.36
46	EL SALVADOR	0.01	0	-93.69
47	ESTONIA	0.2	0.12	-42.48
48	ETHIOPIA	0.02	0.04	63.55
49	ERITREA		0.04	
50	FINLAND	1.68	4.24	152.16
51	FIJI IS	0.05	0.01	-82.79
52	FRANCE	14.56	47.08	223.4
53	GABON	0.06	0.04	-38.34
54	GAMBIA	0.03		
55	GEORGIA	0	0.02	433.33

56	GERMANY	21.91	98.61	350.06
57	GHANA	1.8	0.83	-53.73
58	GIBRALTAR		0	
59	GREECE	0.22	0.08	-65.32
60	GUATEMALA	0.03	0.06	104.82
61	GUINEA	0.14	0.14	-0.07
62	GUINEA BISSAU	0.06		
63	GUYANA	0.01	0	-63.16
64	HAITI	0		
65	HONDURAS	0.01	0.01	29.82
66	HONG KONG	115.81	114.11	-1.47
67	HUNGARY	19.68	15.13	-23.1
68	ICELAND	0.02	0.01	-41.72
69	INDONESIA	30.43	6.43	-78.88
70	IRAN	0.06	0	-95.29
71	IRAQ	0.06	0.03	-53.21
72	IRELAND	2.01	0.61	-69.89
73	ISRAEL	9.37	9.32	-0.55
74	ITALY	1.27	57.7	4,431.49
75	COTE D' IVOIRE	2.68	0.47	-82.46
76	JAMAICA	0		
77	JAPAN	1.33	1.71	28.91
78	JORDAN	31	30.29	-2.26
79	KAZAKHSTAN	20.96	66.62	217.86
80	KENYA	2.47	0.67	-72.89
81	KIRIBATI REP	0	0.01	452.63
82	KOREA RP	12.37	6.29	-49.16
83	KUWAIT	0.2	0.08	-60.57
84	LAO PD RP	0.02	0.01	-63.87
85	LATVIA	0.02	0.02	36.48
86	LEBANON	0.03	0.02	-30.82
87	LESOTHO	0.02		
88	LIBERIA	0.02	0.01	-47.21
89	LIBYA	0.02	0.03	27.4
90	LITHUANIA	0.05	0.04	-9.47
91	MACAO	0.01	0.01	-1.89
92	MACEDONIA	0.11	0.03	-70.95
93	MADAGASCAR	0.03	0.14	384.56
94	MALAWI	0.47	1.24	163.89
95	MALAYSIA	17.86	18.75	4.93
96	MALDIVES	0.31	0.23	-23.4
97	MALI		0.07	

98	MALTA	0.04	0.01	-77.87
99	MAURITANIA			
100	MAURITIUS	0.48	1.29	170.02
101	MYANMAR	2.29	1.84	-19.91
102	MEXICO	18.44	34.56	87.45
103	MOLDOVA		0	
104	MONGOLIA	0	0.94	1,34,828.57
105	MONTSERRAT		0	
106	MOROCCO	26.64	79.32	197.71
107	MOZAMBIQUE	0.35	0.07	-79.28
108	NAMIBIA	0.04		
109	NAURU RP	0.03		
110	NEPAL	19.69	75.11	281.4
111	NETHERLAND	183.72	209	13.76
112	NETHERLANDANTIL	0.02		
113	NEW CALEDONIA		0	
114	NEW ZEALAND	0.26	0.72	171.84
115	NICARAGUA	0		
116	NIGER	0.04	0.14	224.24
117	NIGERIA	1.88	3.38	79.29
118	NIUE IS		0.03	
119	NORWAY	0.2	7.75	3,850.18
120	OMAN	0.54	0.47	-12.66
121	PAKISTAN IR	0		
122	PANAMA REPUBLIC	0.02	0	-93.91
123	PAPUA N GNA	0.03	0.21	625.17
124	PARAGUAY	0.12		
125	PERU	0.09	0.15	73.42
126	PHILIPPINES	0.85	2.62	206.49
127	POLAND	2.21	1.06	-52.22
128	PORTUGAL	0.14	0.19	33.86
129	TIMOR LESTE	0.01	0.01	-27.59
130	PUERTO RICO	0	0	-41.94
131	QATAR	2.71	0.33	-88.02
132	ROMANIA	0.36	1.33	265.38
133	RUSSIA	209.35	496.65	137.24
134	RWANDA	0.17	0.23	33.82
135	SAUDI ARAB	22.44	5.68	-74.67
136	SERBIA	0	0.01	231.25
137	SENEGAL	0.58	0.01	-98.99
138	SEYCHELLES	0.12	0.15	27.09
139	MONTENEGRO		0.04	

140	SIERRA LEONE	0.02	0.43	2,431.36
141	SLOVAK REP	0.08	0.74	800.49
142	SINGAPORE	29.87	43.85	46.82
143	SLOVENIA	0.04	0.07	66.37
144	SOMALIA	0.2	0	-99.09
145	SOUTH AFRICA	103.11	206.03	99.82
146	SPAIN	0.84	16.16	1,817.69
147	SRI LANKA DSR	23.81	9.94	-58.24
148	ST KITT N A		0	
149	ST VINCENT		0	
150	SUDAN	0.15	0.01	-90.41
151	SURINAME		0	
152	SWAZILAND	0.01	0.01	-29.91
153	SWEDEN	16.76	5.25	-68.65
154	SWITZERLAND	0.74	0.42	-43.01
155	TANZANIA REP	2.18	0.65	-70.3
156	THAILAND	34.82	10.59	-69.59
157	TOGO	0.27	0.2	-28.15
158	TRINIDAD	0	0	-79.49
159	TUNISIA	0.07	0.23	252.63
160	TURKEY	21.75	159.36	632.76
161	UGANDA	0.28	1.06	276.62
162	U ARAB EMTS	1,010.77	2,081.54	105.94
163	U K	12.42	66.75	437.53
164	UKRAINE	16.98	50.74	198.8
165	U S A	286.39	298.59	4.26
166	URUGUAY	0.01		
167	UZBEKISTAN	0.03	0.01	-61.72
168	VIETNAM SOC REP	18.59	13.58	-26.94
169	VIRGIN IS US	0		
170	SAMOA	0.03		
171	YEMEN REPUBLC	0	0.01	954.55
172	CONGO D. REP.	0.14	0.08	-45.81
173	ZAMBIA	0.45	0.32	-29.05
174	ZIMBABWE	0.17	0.04	-76.74
175	UNSPECIFIED		0	
	Total	**2,577.98**	**4,678.46**	**81.48**
India's Total		**3,30,078.09**	**3,13,361.04**	**-5.06**
%Share		**0.781**	**1.493**	

Source: Export Import Data Bank, Department of Commerce

Section 8: Summary

For Electric apparatus for line telephony, telegraphy, China, Hongkong, Vietnam, USA, and Rep. of Korea are the top five exporters from 2015 to 2019 covering more than 70 per cent of world exports. The top five importers consist of USA, Hongkong, China, Japan and Germany comprising 45% of the world imports of telephone apparatus. India remains the 9th largest importer of Electric apparatus for line telephony, telegraphy in the world, from 2015-19, with import value share of 2.33% in 2019.

UAE, USA, Netherlands, Russia and China are the countries which constituted the largest markets for India's telephone exports from 2015-2019 with export-value shares of 45%, 6%, 5%, 11% and 4% respectively in 2019. China, Hongkong , Vietnam, South Korea and Singapore are the countries from which India imported telephones, in descending order of magnitude of import-values (US$), from 2015-2019 with total import-value share of 86% in 2019.

The market indicators for India in terms of telephone items trade can be improved with respect to other major importers. Lower values of the Competitiveness index between India and the major importing countries, particularly Hongkong, China and Japan are a testimony to this. Export Intensity Indices of India with UAE, USA,Russia and Germany are greater than 1, implying India gives much more importance to these countries as a destination for its exports of Electrical, electronic equipment than the rest of the world does.

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Appendix A

1. Revealed Comparative Advantage Index (RCA): RCA for a commodity exported from a country means the importance of this commodity in the export trade of the country in comparison with the importance of the commodity in world exports. Mathematically,

RCAij = (xij/Xit)/(xwj/Xwt)
where xij = country i's exports of commodity j
Xit = country i's total exports
xwj= world exports of commodity j
Xwt= total world exports.
When RCAij > 1, i.e. when j's weight in i's exports (xij/Xit) is more than j's weight in world exports (xwj/Xwt), country i is said to have a revealed comparative advantage in commodity j. There is a revealed comparative disadvantage if RCAij < 1. When RCAij = 1, there is neither comparative advantage or disadvantage.

By studying the RCA for a commodity exported from a country over time, it can be seen whether the country in question is gaining in comparative advantage regarding a particular commodity. If RCA is falling, the reasons require investigation. (xij/Xit) may have risen less or fallen more than proportionately than (xwj/Xwt).

2. One way of checking the reasons for a fall in RCA for a particular commodity is seeing which markets are responsible for this fall. This can be seen from another, slightly different, indicator called Export Specialization Index (ESI).

ESI = (xij/Xit)/(mkj/Mkt), where
mkj = import of commodity j to market k
Mkt= world imports of commodity k.
(mkj/Mkt) gives the weight of j in market k. So, if RCAij is seen to fall, then it can be found out for which markets ESI has fallen. Special attention may then be given to those markets regarding the commodity in question.

3. Like RCA, the revealed comparative import intensity (RCII) can also be measured.
RCII = (mij/Mit)/(mwj/Mwt)
where mij = country i's imports of commodity j
Mit = country i's total imports
mwj= world imports of commodity j
Mwt= total world imports.
This gives an idea whether the proportion of imports of any commodity is more than expected, in terms of the share of that commodity in world imports.

4. Bilateral trade between countries is an important area of trade policy in that bilateral trade agreements are signed to increase trade. However, some points require to be examined before entering into these

agreements. Firstly, it is necessary to see whether there is trade complementarity between the two countries. That is, whether the exports of one country match with the imports of the other, and vice versa. Naturally, when trade complementarity is high between two countries, it is beneficial to enter into a trade agreement. If a partner country does not import what India generally exports, there is little point in entering into a trade agreement with that country. The Trade Complementarity Index (TCI) is given as follows:

TCI = $1 - \sum (\left| mik - xij \right| /2)$, where
mik= share of commodity i in the imports of market k
xij = share of commodity i in the exports of country j.
It is evident that TCI can have values between 0 and 1. When these shares, are mik and xij are close to each other, (i.e. when trade complementarity increases) TCI is close to 1. As their difference increases, TCI falls.

TCIW = TCI between a country and the World.
RTCI (Relative Trade Complementarity Index) between country k and country j = (TCI between country k and country j) / (TCI between country k and the world)

RTCI gives a measure of the complementarity between two countries as compared to the complementarity between the first country and the world.

5. But another fact may be checked while proceeding to enter into a trade agreement. The trade between the two countries may already be quite high. This can be measured by the Export Intensity Index (EII).
TII = (xij/Xit)/(xwj/Xwt)
where xij = country i's exports to country j
Xit = country i's exports to the world
xwj = world exports to country j
Xwt = total world exports.
This essentially measures the relative importance of country j in country I's export trade, in comparison with country j's importance as world export destination. EII < 1 or >1 implies less than or more than expected bilateral trade, respectively. If EII is already high, there is little scope of further increasing bilateral trade between i and j. But if is low, and if TCI is high, bilateral trade can very well be increased through trade agreements.

6. Arelated indicator is the Export Similarity Index (XSI), which helps us identify a country's competitors.
XSI = $\sum$ [min (Xij, Xik)*100]
where Xij= share of commodity i in exports of country j
Xik= share of commodity i in exports of country k
XSI can vary between 0 and 100. It will be seen that when Xij= Xik for all i's, XSI = 100, which means complete export similarity between countries j and k. As Xij and Xik start to differ, XSI falls. Countries exporting the same commodities are competitors in the world market, and export strategies, taking in to account such competition, have to be designed accordingly.

7. It is necessary to know whether the exports of a country are concentrated in a few products. A high concentration, while enabling a country to reap the benefits of specialization and economies of scale, also exposes a country to the risks arising from the vicissitudes of global trade. The Hirschman Index (HI), used by UNCTAD, is a handy measure for monitoring export concentration.

$HI = \sqrt{[\sum Sq(xi/Xt)]}$

where xi is the country's exports of commodity i

Xt is the country's total exports.

HI ranges from (1/n) to 1. The higher the value of HI, the higher the concentration of exports.

8. Intraindustry trade is of importance as it can increase and expand markets. The standard indicator is the Index of Intraindustry Trade (IIT).

$IITjk = 1 - [\sum | Xijk - Mijk | / (Xijk + Mijk)]$

where Xijk = exports of products of industry i from country j to country k

Mijk = imports of products of industry i from country k to country j.

IIT can take values from 1 (extremely high intra-industry trade, exports equaling imports) to 0 (no interindustry trade at all).