

India's International Trade of Coffee in the Recent Past – Some Insights

Preface

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 coffee, to indicate the possible directions policy may take.

The data used in this study has been sourced from the United Nations Comtrade Database, the Coffee Board of India, Export Import Data Bank, Department of Commerce and the FAOSTAT database. Computations are primarily based on data at the ITC-HS two-digit level (HS-09) and ITC-HS four-digit level (HS-0901) 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.

The layout of the study is as follows:

Section 1: An introduction of the Commodity Coffee

Section 2: Global Coffee Industry and its Supply and Demand Balance

Section 3: The Indian Scenario of Coffee Industry/Production in India, including its Regulatory Authority

Section 4: Trends in Area Usage, Production and Consumption of Coffee

Section 5: International Trends in the imports and exports of the Coffee worldwide

Section 6: Deals with India's Export Intensity of the commodity with respect to various countries. Countries where market-specific policies can be implemented to boost exports are identified and the complete list is presented in Appendix A.

Section 7: Analysis using the Revealed Comparative Advantage and the Revealed Comparative Import Inclinations indices.

Section 8: Using the Competitiveness Index, this section discusses the dominating patterns of the major exporters of coffee in the international markets as well as Intra-Industry Trade Values between India and major coffee traders.

Section 9: Discusses India's export of the commodity to the ASEAN, the BRICS, and the EU.

Section 10: Provides relevant data for India's export of coffee and YoY changes, country wise at the ITC-HS 4-digit level.

Section 11: Compares and analyses the unit value of Indian exports of the commodity with that of other major exporters.

Section 12: Summary.

Appendix A: List of countries deserving market-specific export promotion policies.

Appendix B: The formulae of the trade indicators used.

Section 1: Introduction

Coffee is a brewed drink prepared from roasted coffee beans, the seeds of berries from certain Coffee species. The seed is separated from the fruit to produce green coffee. Green coffee is then roasted, that transforms the raw green coffee into a consumable product, roasted coffee. Roasted coffee is then ground into a powder and mixed with water to produce a cup of coffee. Coffee is darkly coloured, bitter, and slightly acidic and has a stimulating effect, primarily due to its caffeine content.

The two most commonly grown coffee bean types are C. Arabica and C. Robusta. Coffee plants are now cultivated in over 70 countries, primarily in the equatorial regions of the Americas, Southeast Asia, the Indian subcontinent, and Africa. Green, unroasted coffee is the most traded agricultural commodity, and the coffee trade is the most traded commodity second only to petroleum. Despite the sales of coffee reaching billions of dollars, those actually producing the beans are disproportionately living in poverty, apart from the coffee industry's negative impact claimed on the environment and the clearing of land for coffee-growing and water use. The environmental costs and wage disparity of farmers is causing the market for fair trade and organic coffee to expand.

Section 2: Global Coffee Industry and its Supply and Demand Balance

The two main varieties of coffee are Arabica and Robusta which are grown in India. Arabica is a mild coffee, but the beans being more aromatic, it has higher market value compared to Robusta beans. On the other hand, Robusta has more strength and is, therefore, used in making various blends.

For the year 2018-19, the global coffee production during witnessed surplus over global consumption. As per International Coffee Organization, the Global Coffee production by all the exporting countries for the Crop Year 2019 is estimated at 168.87 million bags, which is an increase of 3.7% over the previous year's production of 162.85 million bags. The global Coffee consumption was estimated at 164.82 million bags in the calendar year 2018, which is an increase of 2.1% over the preceding year (161.42 million bags). The world has been witnessing a steady increase in consumption at an impressive CAGR of 2.1% between 2014 and 2018.

During the year 2018-19, International Coffee prices have shown declining trend due to global surplus supplies, market speculations, currency volatility, etc. The prices of other mild Arabicas (the category in which the Indian Arabicas are classified in the International market) ranged between 121.18 US cents/lb and 137.34 US cents/lb with an average of 130.28 US cents/lb, which is a decline of 9.33% compared to the previous year's average prices. Similarly for Robusta, the price ranged between 76.70 US cents / lb and 88.74 US cents / lb with an average of 82.10 US cents / lb, which is a decline of 14.77% compared to the previous year's average price. During the financial year 2018-19, average ICO composite indicator price was 105.44 US cents/lb. The composite indicator prices are declined by 12.90% compared to previous year's average price of 121.02 US cents/lb.

Section 3: Indian Scenario

The Coffee Board of India was established by an act of Parliament in 1942. Until 1995 the Coffee Board marketed the coffee of many growers from a pooled supply, but after that time coffee marketing became a private-sector activity due to the economic liberalisation in India. The Coffee Boards traditional duties included the promotion of the sale and consumption of coffee in India and abroad, conducting coffee research, financial assistance to establish small coffee growers, safeguarding working conditions for laborers, and managing the surplus pool of unsold coffee.

Despite a good coffee season in 2018-19, starting from July, 2018 onwards, continuous heavy rainfall with severe intensity was witnessed especially in coffee areas of Karnataka and Kerala. The rainfall caused severe damage to the coffee plantations in certain areas. As per the prices prevailed in the auctions conducted by Indian Coffee Traders Association (ICTA), the Domestic Market price of Arabica (Plantation ‘A’) ranged from Rs.184.87/Kg to Rs.213.67/Kg with an average of Rs.192.58/Kg which is about 6.20% lesser than the price that prevailed during the previous year (Rs.205.02/Kg) and the Robusta (Cherry ‘AB’) price ranged from Rs.124.50/Kg to Rs.149.50/ Kg with an average of Rs.136.26/Kg which is an increase of 8.63% over the price prevailed during the previous year (Rs.125.43/ Kg).

Indian CTA Auction Prices (Avg.) during last five years (Rs./kg)

Financial Year	2014-15	2015-16	2016-17	2017-18	2018-19
Plant A	278.97	263.96	225.37	205.02	192.58
Robusta Che.AB	144.96	119.19	133.18	125.43	136.26

In this report, we will see various analyses and aspects of India’s export trade of Coffee. However, before that, we need to understand the classification of data structures available for international comparison and analysis. According to the ITC HS system, the code 09 is assigned to indicate the trade of “Coffee, tea, mate and spices” in India. We work with the ITC-HS two-digit level (HS-09) and ITC-HS four-digit level code HS-0901 and the latest finalized data available on the UN Comtrade Database up to year 2019. The 4-digit classification code used in our analysis is HS-0901 that indicates “Coffee, coffee husks and skins and coffee substitutes”, enabling global comparisons. Table 1 outlines the relevant categories along with their description. Henceforth, we will use both the 2-digit and 4-digit codes for our analysis, as appropriate.

Table 1: ITC HS Classification of Coffee

ITC HS Code	Name/Description
0901	Coffee, coffee husks and skins and coffee substitutes : <i>Coffee, whether or not roasted or decaffeinated; coffee husks and skins; coffee substitutes containing coffee in any proportion.</i>
090111	Coffee, not roasted, not decaffeinated
090112	Coffee, not roasted, decaffeinated
090121	Coffee, roasted, not decaffeinated
090122	Coffee, roasted, decaffeinated
090190	Coffee husks and skins

Section 4: Trends in Area Usage, Production and Consumption of Coffee

Table 2 shows the largest producers of green coffee (valued at current thousand US\$) in the world for the years 2014 to 2018 wherein Brazil, Vietnam, Colombia, Indonesia and Honduras are ranked in descending order of magnitude.

Table 2: Countries with largest Gross Production Value of Green Coffee (current thousand US\$), 2014-2018

Country	2014	2015	2016	2017	2018	Grand Total	Share in Production Value (in %)
Brazil	7784780	5620246	6757035	6208848	6139032	32509941	38.11
Viet Nam	2214317	2177332	2553520	2983911	2867067	12796147	15.00
Colombia	2050921	1731216	1567537	1719713	1672858	8742245	10.25
Indonesia	950248	913778	951789	1330791	1348504	5495110	6.44
Honduras	714479	812113	837865	1086543	1006046	4457046	5.23
India	663036	718225	763386	740455	712024	3597126	4.22
Peru	564229	505711	461685	611446	620529	2763600	3.24
Ethiopia	520829	550246	568994	497635	439064	2576768	3.02
Nicaragua	267693	285387	327421	320903	327354	1528758	1.79
Costa Rica	273048	290865	269222	285964	233039	1352138	1.59
Others	2383191	1888940	1900269	1910542	1398079	9481021	11.11
Total	18386771	15494059	16958723	17696751	16763596	85299900	100

Source: Computed from FAOSTAT database

In India, the traditional coffee growing areas consist of three southern states viz., Karnataka, Kerala and Tamil Nadu. The total planted area under coffee in Traditional Areas is 3,66,760 Ha., which accounts for 80% of the total planted area of 4,59,894 Ha. in the country. The number of holdings in Traditional Areas are 1,75,184 which account for around 47% of the total number of 3,75,542 holdings in the country. The details of planted area, bearing area under coffee and number of holdings for 2018-19 in the three traditional coffee growing states are shown below. Further, the post monsoon crop estimates for 2018-19 season in respect of Traditional coffee growing areas was placed at 3,03,655 tonnes comprising 82,960 tonnes of Arabica and 2,20,695 tonnes of Robusta. The state-wise details are as under:

Table 3: Area under Coffee and Production Estimates in Traditional Areas in India in 2018-19

State	Planted Area (Ha.)			Bearing Area (Ha.)			No. of Holdings		
	Arabica	Robusta	Total	Arabica	Robusta	Total	<10 ha.	>10 ha.	Total
Karnataka	1,08,816	1,36,472	2,45,288	99,645	1,26,576	2,26,221	77,101	2,214	79,315
Kerala	4,231	81,649	85,880	3,955	81,021	84,976	77,584	277	77,861
Tamil Nadu	29,324	6,268	35,592	27,525	5,955	33,480	17,663	345	18,008
Total for Traditional Areas	1,42,371	2,24,389	3,66,760	1,31,125	2,13,552	3,44,677	1,72,348	2,836	1,75,184

State	Production Estimates (in Tonnes)		
	Arabica	Robusta	Total
Karnataka	67,800	1,53,648	2,21,448
Kerala	2,170	62,506	64,676
Tamil Nadu	12,990	4,541	17,531
Total for Traditional Area	82,960	2,20,695	3,03,655

Source: Coffee Board, India

The details of area under coffee and the number of holdings in Andhra Pradesh and Odisha are as under:

Table 4: Area under Coffee in Other Areas (Andhra Pradesh, Odisha & North East States) in India in 2018-19

Liaison zone	Planted Area (Ha.)			Bearing Area (Ha.)			No. of Holdings		
	Arabica	Robusta	Total	Arabica	Robusta	Total	< 10	>10	Total
Andhra Pradesh									
Minumuluru	34,458.03	0.52	34,458.55	28,512.03	0.52	28,512.55	90,462	1	90,463
Chintapalli(E)	13,101.58	181.40	13,282.98	10,867.18	181.40	11,048.58	27,247	2	27,249
Chintapalli(W)	18,684.51	82.31	18,766.82	15,027.41	82.31	15,109.72	32,371	1	32,372
Arakuvalley	13,647.60	0.00	13,647.60	10,267.60	0.00	10,267.60	33,701	1	33,702
Total :	79,891.72	264.23	80,155.95	64,674.22	264.23	64,938.45	1,83,781	5	1,83,786
Odisha	4,281.73	0	4,281.73	4,066.19	0	4,066.19	4077	20	4,097
Grand Total :	84,173.45	264.23	84,437.68	68,740.41	264.23	69,004.64	1,87,858	25	1,87,883

Source: Coffee Board, India

The details of area under coffee and number of holdings in North Eastern States are as under:

Table 5: Area under Coffee in North-East India in 2018-19

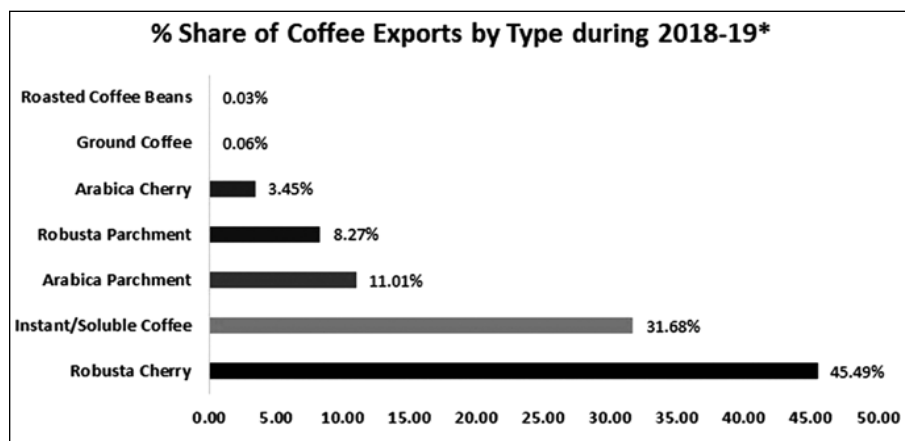
Sl. No.	Liaison Zone/State	Planted Area (Ha)			Bearing Area (Ha)			No. of Holdings		
		Arabica	Robusta	Total	Arabica	Robusta	Total	<10	>10	Total
1	Arunachal Pradesh	13.00	491.45	504.45	0	153.50	153.50	473	2	475
2	Assam	848.65	429.37	1,278.02	434.25	224.50	658.75	1,622	3	1,625
3	Manipur	272.10	11.00	283.10	22.00	0	22.00	259	0	259
4	Meghalaya	434.19	814.79	1,248.98	281.65	261.95	543.60	2,253	0	2,253
5	Mizoram	2,600.92	21.85	2,622.77	767.05	3.5	770.55	4,616	3	4,619
6	Nagaland	1970.40	266.80	2,237.20	600.0	50.00	650.00	2,266	1	2,267
7	Tripura	396.25	125.95	522.20	247.65	14.00	261.65	977	0	977
Grand Total of NER :		6,535.51	2,161.21	8696.72	2,352.60	707.45	3,060.05	12,466	9	12,475

Source: Coffee Board, India

The following panel shows the breakdown of different types of coffee in Indian exports in 2018-19:

Table 6: Types of Coffee Exports during 2018-19* (Provisional)

Type of Coffee	Quantity in Tonnes	Percentage to Total Exports
Arabica Parchment	38,960	11.01
Arabica Cherry	12,190	3.45
Robusta Parchment	29,275	8.27
Robusta Cherry	1,60,953	45.49
Roasted Coffee Beans	99	0.03
Ground Coffee	220	0.06
Instant/Soluble Coffee	1,12,099	31.68
Total	3,53,795	100.00



Source: Coffee Board, India

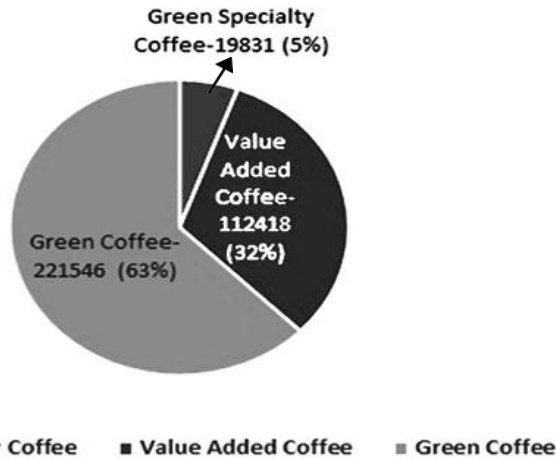
The following panel shows the breakdown of three different types of coffee viz. Green, Green Specialty and Soluble/Instant Roasted & Ground varieties, both quantity and value in Indian coffee exports in 2018-19:

Table 7: Export of Specialty and Value Added Coffee during 2018-19 [Both Indian and Re-Exported Coffee] [Provisional]

Sl. No.	Type of Coffee	Quantity (Tonnes)	Value in Rs. Lakhs
1	Green Specialty Coffee	19,831.33	42,309.63
2	Soluble/Instant, Roasted & Ground Coffee	1,12,417.87	1,99,405.24
3	Green Coffee	2,21,546.08	3,40,073.30
	Total	3,53,795	5,81,788

Quantity in Green Bean Equivalent *Based on the Permit Issued

Type of Coffee Exports and thier share in Total Exports during 2018-19*



Source: Coffee Board, India

The details of top 10 coffee exporters from India in 2018-19 are given below in Table 8:

*Table 8: Top 10 Coffee Exporters during 2018-19
(Both Indian & Re-Exported Coffee)*

Sl. No.	Exporter
1	CCL PRODUCTS INDIA LTD
2	ALLANASONS PRIVATE LIMITED
3	NKG INDIA COFFEE PRIVATE LIMITED
4	TATA COFFEE LTD
5	OLAM AGRO INDIA PRIVATE LIMITED
6	COFFEE DAY GLOBAL LIMITED
7	EMIL TRADERS PVT LTD.
8	NED COMMODITIES INDIA PVT LTD
9	VIDYA HERBS PRIVATE LIMITED
10	SLN COFFEE AND SPICES EXPORTS PVT LTD

Source: Coffee Board, India

Section 5: Trends in International Trade i.e. Exports and Imports of Coffee

A glimpse of the top twenty exporters of coffee (ITCHS 0901) in the world is given in table 9 below.

Table 9: Exports of Coffee (ITCHS 0901) in billion US dollars

Country	2015	2016	2017	2018	2019	Grand Total
Brazil	5.57	4.86	4.61	4.37	4.58	23.99
Viet Nam	2.42	3.04	3.10	2.89	2.22	13.67
Colombia	2.58	2.46	2.58	2.34	2.36	12.32
Germany	2.26	2.33	2.64	2.58	2.42	12.21
Switzerland	2.03	2.06	2.25	2.35	2.51	11.20
Italy	1.40	1.54	1.63	1.71	1.74	8.02
Honduras	0.93	0.86	1.29	1.11	0.96	5.15
Indonesia	1.20	1.01	1.19	0.82	0.88	5.09
France	0.71	0.74	1.06	1.17	1.24	4.92
USA	0.95	0.93	0.87	0.86	0.82	4.44
Netherlands	0.53	0.58	0.73	0.83	0.78	3.45
Guatemala	0.66	0.65	0.75	0.68	0.66	3.41
Peru	0.61	0.76	0.71	0.68	0.64	3.41
India	0.54	0.55	0.64	0.51	0.50	2.75
Canada	0.52	0.55	0.62	0.50	0.50	2.70
Ethiopia	0.65	0.61	0.78	0.38	0.00	2.42
Nicaragua	0.40	0.41	0.51	0.42	0.46	2.19
Poland	0.52	0.37	0.32	0.33	0.32	1.86
United Kingdom	0.35	0.34	0.36	0.36	0.35	1.77
Uganda	0.40	0.37	0.56	0.44	0.00	1.77
Others	4.03	4.22	3.99	3.81	3.56	19.60
Total Export Value	29.25	29.24	31.20	29.14	27.51	146.35

Source: Computed from UN Comtrade database

Tables 9 and 10 show the top twenty exporters of coffee and their percentage shares. Brazil, Vietnam, Colombia, Germany and Switzerland are the top five exporters of coffee from 2015 to 2019. Together, these five countries around 50 per cent of exports. India (13th rank) is among the top 20 coffee exporters accounting for around 2 per cent of the global exports.

Table 10: Shares of countries in % in world exports of Coffee (ITCHS 0901)

Country	2015	2016	2017	2018	2019
Brazil	19.02	16.61	14.79	15.00	16.67
Viet Nam	8.26	10.40	9.94	9.92	8.07
Colombia	8.81	8.42	8.28	8.01	8.59
Germany	7.71	7.96	8.45	8.85	8.78
Switzerland	6.95	7.04	7.21	8.06	9.11
Italy	4.78	5.25	5.23	5.87	6.34
Honduras	3.19	2.94	4.14	3.82	3.47
Indonesia	4.09	3.45	3.81	2.81	3.21
France	2.42	2.54	3.41	4.01	4.49

USA	3.25	3.19	2.80	2.95	2.99
Netherlands	1.83	1.98	2.35	2.84	2.84
Guatemala	2.27	2.23	2.40	2.34	2.41
Peru	2.10	2.61	2.28	2.34	2.31
India	1.85	1.88	2.05	1.76	1.83
Canada	1.79	1.89	1.98	1.73	1.82
Ethiopia	2.23	2.09	2.51	1.29	0.00
Nicaragua	1.36	1.39	1.64	1.44	1.67
Poland	1.77	1.26	1.03	1.14	1.18
United Kingdom	1.21	1.17	1.15	1.23	1.29
Uganda	1.38	1.27	1.78	1.50	0.00
Others	13.76	14.43	12.78	13.08	12.93
Total Export Value	100	100	100	100	100

Source: Computed from UN Comtrade database

We compute similar tables for the top importers of the commodity in the world. Tables 11 and 12 below show the total import values of coffee by the top twenty countries and their percentage shares respectively. The top five importers in the list consist of USA, Germany, France, Italy and Japan.

Table 11: Imports of Coffee (ITCHS 0901) in billion US dollars

Country	2015	2016	2017	2018	2019	Grand Total
USA	6.03	5.75	6.31	5.72	5.84	29.66
Germany	3.41	3.38	3.51	3.29	3.10	16.69
France	2.39	2.36	2.75	2.83	2.73	13.07
Italy	1.78	1.67	1.80	1.75	1.62	8.62
Japan	1.58	1.42	1.43	1.26	1.25	6.94
Canada	1.24	1.19	1.29	1.21	1.20	6.12
Netherlands	1.07	1.03	1.24	1.29	1.16	5.79
United Kingdom	0.94	1.01	1.06	1.08	1.06	5.14
Spain	1.01	0.99	1.08	1.02	0.95	5.05
Switzerland	0.79	0.70	0.75	0.76	0.75	3.74
Rep. of Korea	0.55	0.56	0.66	0.64	0.66	3.06
Russian Federation	0.51	0.52	0.64	0.59	0.63	2.89
Belgium	0.55	0.47	0.50	0.60	0.60	2.73
Poland	0.46	0.44	0.52	0.58	0.58	2.57
Australia	0.48	0.45	0.52	0.48	0.46	2.40
Sweden	0.47	0.47	0.50	0.42	0.40	2.27
Austria	0.43	0.42	0.45	0.44	0.43	2.17
Czechia	0.52	0.37	0.27	0.27	0.28	1.71
China	0.23	0.49	0.26	0.30	0.27	1.56
Finland	0.30	0.29	0.31	0.27	0.29	1.44
Others	5.26	5.42	6.11	5.99	5.41	28.19
Total Import Value	29.99	29.38	31.95	30.80	29.66	151.80

Source: Computed from UN Comtrade database

Table 12: Shares of countries in % in world imports of Coffee (ITCHS 0901)

Country	2015	2016	2017	2018	2019
USA	20.12	19.56	19.76	18.57	19.69
Germany	11.36	11.49	11.00	10.70	10.44
France	7.97	8.02	8.62	9.20	9.21
Italy	5.93	5.70	5.62	5.68	5.47
Japan	5.27	4.82	4.48	4.09	4.21
Canada	4.13	4.05	4.03	3.91	4.03
Netherlands	3.57	3.50	3.89	4.18	3.90
United Kingdom	3.13	3.44	3.31	3.50	3.56
Spain	3.37	3.37	3.38	3.30	3.22
Switzerland	2.62	2.39	2.34	2.46	2.53
Rep. of Korea	1.82	1.92	2.05	2.07	2.23
Russian Federation	1.70	1.76	2.00	1.92	2.13
Belgium	1.83	1.59	1.58	1.95	2.03
Poland	1.52	1.49	1.61	1.89	1.95
Australia	1.60	1.54	1.62	1.57	1.55
Sweden	1.58	1.58	1.57	1.38	1.35
Austria	1.43	1.44	1.39	1.44	1.45
Czechia	1.74	1.25	0.83	0.88	0.94
China	0.76	1.68	0.82	0.98	0.91
Finland	0.99	0.97	0.96	0.86	0.97
Others	17.53	18.45	19.13	19.45	18.23
Total Import Value	100	100	100	100	100

Source: Computed from UN Comtrade database

Tables 13 and 14 show the top twenty destinations for Indian exports of coffee, denoting the values and percentage shares respectively. Italy, Germany, Belgium, Jordan and Kuwait are the countries which constituted the largest markets for India's exports of coffee from 2015-2019 with export-value shares of 28%, 16%, 9%, 4% and 3% approx. respectively in 2019.

Table 13: India's exports of Coffee (ITCHS 0901) to various countries (in billion US dollars)

Partner Country	2015	2016	2017	2018	2019	Total Export Value
Italy	0.18	0.17	0.17	0.15	0.14	0.81
Germany	0.07	0.07	0.10	0.06	0.08	0.38
Belgium	0.04	0.06	0.05	0.05	0.04	0.24
Jordan	0.03	0.03	0.03	0.03	0.02	0.13
Kuwait	0.02	0.02	0.02	0.02	0.02	0.09
Australia	0.02	0.01	0.02	0.02	0.01	0.08
Slovenia	0.02	0.02	0.02	0.01	0.01	0.08
Libya	0.02	0.01	0.02	0.01	0.01	0.08
Spain	0.01	0.02	0.02	0.01	0.01	0.07

Greece	0.01	0.02	0.01	0.01	0.01	0.06
Saudi Arabia	0.01	0.01	0.01	0.01	0.01	0.06
Rep. of Korea	0.01	0.01	0.01	0.01	0.01	0.05
Israel	0.01	0.01	0.01	0.01	0.01	0.04
Russian Federation	0.01	0.01	0.01	0.01	0.01	0.04
Portugal	0.01	0.01	0.01	0.01	0.01	0.04
USA	0.01	0.01	0.01	0.01	0.01	0.04
United Arab Emirates	0.01	0.01	0.01	0.01	0.01	0.04
United Kingdom	0.01	0.01	0.01	0.01	0.01	0.03
Syria	0.00	0.00	0.01	0.00	0.01	0.03
Switzerland	0.01	0.00	0.01	0.00	0.00	0.03
Others	0.05	0.06	0.10	0.07	0.07	0.35
Total	0.54	0.55	0.64	0.51	0.50	2.75

Source: Computed from UN Comtrade database

Table 14: Various countries' share (in %) in Indian exports of Coffee (ITCHS 0901)

Partner Country	2015	2016	2017	2018	2019
Italy	32.74	30.64	26.94	29.37	27.90
Germany	12.57	13.57	15.36	12.37	16.03
Belgium	7.80	10.04	8.05	9.24	8.94
Jordan	5.18	4.73	3.93	4.87	4.47
Kuwait	3.41	3.17	2.94	3.12	3.14
Australia	3.22	2.48	3.12	3.06	2.83
Slovenia	3.77	3.76	2.41	2.39	2.29
Libya	2.80	2.41	3.47	2.80	2.93
Spain	2.30	3.02	3.18	2.70	1.92
Greece	2.65	2.96	1.58	2.41	2.35
Saudi Arabia	2.35	1.85	1.99	2.12	1.91
Rep. of Korea	2.10	1.47	1.52	1.85	1.75
Israel	1.75	1.29	1.60	1.37	1.18
Russian Federation	1.09	1.45	1.51	1.67	1.21
Portugal	1.50	1.17	1.45	1.28	1.30
USA	1.23	1.10	1.39	1.31	1.51
United Arab Emirates	1.39	1.39	1.05	1.45	1.30
United Kingdom	1.05	0.96	0.87	1.17	1.37
Syria	0.48	0.68	1.21	0.87	1.52
Switzerland	1.72	0.73	0.79	0.89	0.65
Others	8.91	11.14	15.64	13.70	13.49
Total	100	100	100	100	100

Source: Computed from UN Comtrade database

In similar vein, tables 15 and 16 show the top twenty destinations for Indian imports of coffee, denoting the values and percentage shares respectively. Vietnam, Indonesia, Uganda, Kenya and CÔte d'Ivoire are

the countries from which India imported coffee, in descending order of magnitude of import-values, from 2015-2019. Thus, Indian coffee imports of value around 93% were sourced from these five countries from in 2019.

Table 15: India's imports of Coffee (ITCHS 0901) from various countries (in billion US dollars)

Partner Country	2015	2016	2017	2018	2019	Total Import Value
Viet Nam	0.06	0.07	0.09	0.10	0.06	0.38
Indonesia	0.04	0.02	0.01	0.01	0.02	0.09
Uganda	0.02	0.02	0.02	0.01	0.01	0.07
Kenya	0.00	0.00	0.00	0.01	0.02	0.04
Côte d'Ivoire	0.00	0.00	0.00	0.00	0.01	0.01
United Rep. of Tanzania	0.00	0.00	0.00	0.00	0.00	0.01
Papua New Guinea	0.00	0.00	0.00	0.00	0.00	0.01
Peru	0.00	0.00	0.00	0.00	0.00	0.01
China	0.00	0.00	0.00	0.00	0.00	0.00
Honduras	0.00	0.00	0.00	0.00	0.00	0.00
Brazil	0.00	0.00	0.00	0.00	0.00	0.00
Italy	0.00	0.00	0.00	0.00	0.00	0.00
Lao People's Dem. Rep.	0.00	0.00	0.00	0.00	0.00	0.00
Mexico	0.00	0.00	0.00	0.00	0.00	0.00
Nicaragua	0.00	0.00	0.00	0.00	0.00	0.00
Germany	0.00	0.00	0.00	0.00	0.00	0.00
USA	0.00	0.00	0.00	0.00	0.00	0.00
Colombia	0.00	0.00	0.00	0.00	0.00	0.00
Belgium	0.00	0.00	0.00	0.00	0.00	0.00
Areas, nes	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.12	0.11	0.15	0.13	0.12	0.63

Source: Computed from UN Comtrade database

Table 16: Various countries' share in % in Indian imports of Coffee (ITCHS 0901)

Partner Country	2015	2016	2017	2018	2019
Viet Nam	47.59	60.58	62.57	71.70	52.73
Indonesia	31.50	16.72	9.78	4.51	13.21
Uganda	12.97	13.54	15.65	6.36	5.03
Kenya	2.86	3.29	0.62	9.56	14.43
Côte d'Ivoire	0.00	0.00	1.29	0.82	7.68
United Rep. of Tanzania	0.09	0.39	0.96	1.58	3.12
Papua New Guinea	0.60	1.17	1.09	1.27	0.28
Peru	0.00	1.67	2.13	0.23	0.20
China	1.59	0.89	0.22	0.52	0.14

Honduras	0.00	0.76	1.63	0.20	0.16
Brazil	1.95	0.01	0.17	0.12	0.12
Italy	0.38	0.50	0.32	0.48	0.36
Lao People's Dem. Rep.	0.00	0.00	1.35	0.20	0.17
Mexico	0.00	0.00	0.58	0.45	0.00
Nicaragua	0.00	0.00	0.72	0.21	0.00
Germany	0.00	0.03	0.05	0.38	0.56
USA	0.30	0.25	0.10	0.21	0.16
Colombia	0.00	0.09	0.23	0.08	0.31
Belgium	0.00	0.00	0.00	0.28	0.34
Areas, nes	0.00	0.00	0.17	0.24	0.12
Others	0.15	0.09	0.37	0.61	0.85
Total	100	100	100	100	100

Source: Computed from UN Comtrade database

While the supply-side of coffee in the international market is strong, we need to assess the countries which have a significant share of the commodity in their import basket but do not give enough importance to India as a source country. To do this, we resort to the Export Intensity Index, explained in the following section.

Section 6: 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 17 below shows the indices of the some major countries with respect to India for ITC-HS Chapter 09.

Table 17: Export Intensity Indices for Coffee, tea, mate and spices (ITC-HS Chapter 09) of Countries w.r.t. India

Countries	2015	2016	2017	2018	2019
Brazil	1.92	2.07	1.64	1.87	Values not available
China	0.83	0.86	1.13	1.97	
South Africa	1.68	2.69	2.25	1.84	
USA	0.70	0.68	0.58	0.64	
Germany	0.59	0.54	0.64	0.57	
Japan	0.36	0.38	0.40	0.38	
Italy	1.64	1.48	1.44	1.34	
France	0.14	0.09	0.10	0.11	

Source: Computed from UN Comtrade database

Table 17 shows that among the important trading nations, the Export Intensity Indices of India with Brazil, China, South Africa (among the BRICS countries) and Italy are greater than 1, implying India gives much more importance to these countries as a destination for its exports of coffee, tea, mate and spices than the rest of the world does. Although an exhaustive list of importers is not shown in this table, there is room for improvement with USA, Germany, Japan and France as their respective indices are less than 1.

Rearranging the Export Intensity Index, we can comment on the regions where market (i.e. destination) specific policies need to be taken. If India has a market share in the world, for commodity P (say s), which is greater than India's overall market share (for all commodities) in the world (say t), there is no reason to expect that India's market share for P in Country J, say $g < s$. g can be $< s$ only when, for some reason, Country J imports P, but not sufficiently from India. In terms of the index, $g < s$ is algebraically equivalent to when Export Intensity Index is less than 1. In such cases, market or destination-specific promotional policies will be needed. The same will be true when Country J's share in India's export of P falls below Country J's share in total world imports of P. When both coincide, there is an even stronger case for adoption of the market-specific promotional policies. Appendix A shows the list of such countries in the case of India's exports of coffee.

Section 7: 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 coffee, 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.

To list countries with high RCA or RCII for ITC-HS Chapter 09 in a year, it is sufficient to find of the share of the commodity in the country's export or import basket respectively, since its share in the world exports or imports remains constant in a given year. The RCA of various countries' exports of Coffee, tea, mate and spices (ITC-HS Chapter 09) is given in table 18 below. India has comparative advantage in supply-side for exports of coffee to the world (since $RCA > 1$) as seen from table 18 below.

Table 18: RCA of various countries' exports of Coffee, tea, mate and spices (ITC-HS Chapter 09)

Countries	2015	2016	2017	2018	2019
Brazil	12.34	11.18	9.31	9.74	Values not available
Viet Nam	9.64	N/A	N/A	8.30	
Colombia	28.27	31.56	27.79	27.92	
Germany	0.85	0.90	0.95	1.05	
Switzerland	2.76	2.72	3.10	3.83	
Italy	1.22	1.35	1.33	1.57	
China	0.44	0.56	0.52	0.66	
India	4.31	4.53	4.56	4.53	
USA	0.34	0.35	0.32	0.36	

Source: Computed from UN Comtrade database

Similarity, if the RCII in the destination country is greater than 1 then the country imports coffee etc. (ITC-HS 09) 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 19 shows the RCII indices of various countries' imports of ITC-HS 09. Table 19 below shows that with the exception of China and India, all other mentioned countries have $RCII > 1$ indicating a higher than average appetite for imports of coffee, tea, mate and spices, than the rest of the world and these countries should thus serve as potent destination markets for India's coffee exports.

Table 19: RCII of various countries' imports of Coffee, tea, mate and spices (ITC-HS Chapter 09)

Countries	2015	2016	2017	2018	2019
USA	1.10	1.22	1.13	1.21	Values not available
Germany	1.27	1.43	1.20	1.31	
France	1.57	1.79	1.74	2.08	
Italy	1.48	1.60	1.38	1.51	
Japan	1.06	1.10	0.91	0.93	
Canada	1.16	1.31	1.19	1.36	
Netherlands	1.12	1.32	1.22	1.35	
China	0.07	0.15	0.08	0.11	
India	0.59	0.73	0.57	0.55	

Source: Computed from UN Comtrade database

However, India already exports to many of these countries with a RCII greater than 1. The question that remains is, are the exports sufficiently high? If the RCA of India to these importing countries (not to the world, as was being discussed earlier) is > 1 , it may be said that the exports are sufficiently high. This is applicable only because the importing countries' RCII (for the world) for the product is also > 1 . On the other hand, if the RCA is < 1 , then export of coffee (in value terms) to those countries are not sufficiently high and it needs closer examination. The policy measures, in this case, must be directed towards making Indian exporters increase the share of coffee in their export basket to these countries.

By a similar logic as given above, it can be established that if for a particular commodity, RCA for India and RCII for the importing country are both > 1 , it can be expected that RCII for that commodity in that country's imports from India will be > 1 . If this is not the case, the reasons thereof need to be investigated, and appropriate policy measures need to be taken. Actually, it implies that the country is not importing the particular commodity, here coffee, in sufficient amount (in value terms) while importing from India. It is not necessarily that they are averse to buying from India in general, they may very well purchase other commodities from India, but – for some reason – not this particular product. Policies designed to make these products from India attractive to the importers of the destination country need to be adopted.

Section 8: 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 coffee 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 20 shows the indices of Indian exports as well as other top exporters of coffee (Brazil, Vietnam, Colombia, Germany and Switzerland) for the top importing countries (USA, Germany, France, Italy and Japan). For Indian exports, the index is high only for Italy (>1). It has poor values for other countries, implying India must step up its game in these importing countries (with index < 1) to compete with other exporters of coffee.

Table 20: Competitiveness Indices (Product) of various exporter countries w.r.t Coffee (ITCHS 09)

Competitiveness Index (Product) of Exporter(Reporter) to Importer(Partner) in 2018						
		Partner				
		USA	Germany	France	Italy	Japan
Reporter	India	0.49	0.53	0.11	1.35	0.38
	Brazil	1.15	1.8	0.39	2.28	1.68
	Viet Nam	0.82	1.28	0.29	1.42	1.21
	Colombia	2.72	0.76	0.16	0.58	2.22
	Germany	0.22	N/A	1.16	0.58	0.01
	Switzerland	0.54	0.93	7.17	0.07	0.28

Source: Computed from UN Comtrade database

Table 21: Competitiveness Indices (Market) of various exporter countries w.r.t Coffee (ITCHS 09)

Competitiveness Index (Market) of Exporter(Reporter) to Importer(Partner) in 2018						
		Partner				
		USA	Germany	France	Italy	Japan
Reporter	India	1.67	4.71	0.78	7.69	3.78
	Brazil	10.28	29.51	7.97	31.86	20.11
	Viet Nam	3.99	13.63	2.91	22.66	4.09
	Colombia	27.38	49.97	9.81	20.52	124.33
	Germany	0.35	N/A	0.58	0.27	0.03
	Switzerland	1.89	1.23	15.18	0.16	1.51

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 22) shows varying degrees of IIT between India and some major coffee traders. The value is high (around 0.8) between India and Indonesia, showing greater interdependence (exports and imports by the same sector) in international trade within the same industry. Intra-industry trade usually takes place in the countries that have similar social structure and economical. Meanwhile, the key factors that affecting intra-industry trade are product differentiation, human capital intensity and economies of scale (Hu & Ma, 1999). 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. Instead, they help to broaden the concept.

Table 22: Intra-Industry Trade in HS-09 (Coffee, tea, mate and spices) between India and Some Major Coffee Importing Countries in 2109

IIT between India and Partner Countries (Coffee Traders)	
Countries	Grubel-Lloyd Index in 2019
China	0.04
USA	0.02
Germany	0.02
United Kingdom	0.01
Indonesia	0.78
Viet Nam	0.35
Japan	0.02
France	0.01

Source: Computed from UN Comtrade database

Section 9: India’s exports to Trading Blocs and associations

This section discusses India’s export of Coffee, tea, mate and spices (ITCHS 09) to the trading blocs, namely the EU and the ASEAN, and the members of BRICS. Table 23 shows India’s export, in terms of trade value, to the aforementioned trading blocs and associations.

Table 23: India's export of Coffee, tea, mate and spices (ITCHS 09) to ASEAN, BRICS and EU (in million US \$)

(Export Values in US Million \$)

	2015-16	2016-17	2017-18	2018-19	2019-20
ASEAN	510.62	657.88	666.70	538.11	369.79
BRICS	488.09	468.53	502.68	553.24	866.18
EU Countries	582.82	614.30	614.88	530.42	485.80

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

Section 10: Indian Exports of Coffee

This section analyses the data on Indian exports of Coffee at the ITCHS 4-digit level showing YoY growth rate in value in Million US\$.

Table 24: Indian exports of Commodity: 0901(Coffee, whether or not Roasted or De-caffeinated; Coffee Husks And Skins; Coffee Substitutes Containing Coffee) showing YoY growth rate(%) and value in Million US\$

S.No.	Country	Values in US\$ Million		%Growth
		2018-2019	2019-2020	
1	ALBANIA	2.78	3.61	29.97
2	ALGERIA	0.47	0.08	-82.5
3	ARMENIA	0.17	0.27	61.14
4	AUSTRALIA	15.96	14.07	-11.84
5	AUSTRIA	0.01	0	-52.54
6	BAHARAIN IS	0.12	0.08	-28.6
7	BANGLADESH PR	0	0.03	1,600.00
8	BELGIUM	46.5	45.23	-2.74
9	BHUTAN	0.02	0.02	40
10	BOTSWANA	0	0	600
11	BRUNEI	0	0	100
12	BULGARIA	0.08	0.21	168.92
13	BELARUS	0.22	0.1	-51.92
14	CAMBODIA		0	
15	CANADA	2.74	2.35	-14.11
16	CAPE VERDE IS		0.03	
17	CAYMAN IS		0	

18	TAIWAN	1.65	1.15	-30.19
19	CHINA P RP	0.44	0.2	-53.22
20	CROATIA	6.59	6.71	1.87
21	CYPRUS	0.04		
22	CZECH REPUBLIC	0.05	0.02	-66.32
23	DENMARK	1.47	1.09	-26.08
24	EGYPT A RP	6.17	7.29	18.18
25	ESTONIA	0.33	0.04	-89.43
26	FINLAND	1.4	0.96	-31.25
27	FIJI IS		0	
28	FRANCE	5.09	3.93	-22.72
29	GEORGIA	0.15	0.13	-11.54
30	GERMANY	68.55	75.56	10.22
31	GHANA			
32	GREECE	12.29	10.85	-11.71
33	GRENADA		0	
34	HONG KONG	0	0	-55.56
35	INDONESIA	0.14	0.06	-58.04
36	IRAN	5.02	6.33	25.93
37	IRAQ		0.24	
38	IRELAND	0	0.03	658.33
39	ISRAEL	6.6	6.04	-8.49
40	ITALY	153.15	125.27	-18.21
41	JAMAICA			
42	JAPAN	0.73	1.12	52.44
43	JORDAN	24.16	20.47	-15.3
44	KAZAKHSTAN			
45	KENYA	0	0.06	2,595.65
46	KOREA DP RP		0.11	
47	KYRGHYZSTAN			
48	KOREA RP	9.87	8.36	-15.23
49	KUWAIT	15.8	19.91	26.04
50	LATVIA	0.57	0.73	26.69
51	LEBANON	1.23	0.48	-61.2
52	LIBERIA	0	0	100
53	LIBYA	22.05	7.23	-67.21
54	LITHUANIA		0.18	

55	LUXEMBOURG		0.04	
56	MACAO		0.01	
57	MACEDONIA		0.01	
58	MADAGASCAR			
59	MALAYSIA	0.1	0.15	41.38
60	MALDIVES	0.04	0.03	-36.32
61	MAURITIUS		0	
62	MEXICO	0.05	0.65	1,190.87
63	MOROCCO	2.73	3.34	22.13
64	MOZAMBIQUE			
65	NEPAL	0.56	0.68	20.51
66	NETHERLAND	4.78	3.62	-24.28
67	NEW CALEDONIA	0.26		
68	NEW ZEALAND	0.83	0.95	13.83
69	NIGERIA		0	
70	NORWAY	0.82	0.48	-40.99
71	OMAN	2.28	2.15	-5.61
72	PAKISTAN IR	0		
73	PANAMA REPUBLIC	0		
74	PERU	0.01	0.03	89.36
75	PHILIPPINES	0		
76	POLAND	5.81	3.26	-43.85
77	PORTUGAL	6.85	5.56	-18.91
78	QATAR	1.13	0.43	-61.63
79	ROMANIA	1.16	0.28	-75.94
80	RUSSIA	7.73	6.43	-16.88
81	SAUDI ARAB	11.16	8.69	-22.1
82	SEYCHELLES	0	0	-70.59
83	MONTENEGRO	2.6	1.24	-52.47

84	SINGAPORE	0.53	0.73	38.36
85	SLOVENIA	11.72	10	-14.65
86	SOMALIA	0		
87	SOUTH AFRICA	0.35	0.3	-13.52
88	SPAIN	12.73	10.1	-20.72
89	SRI LANKA DSR	0.23	0.14	-38.81
90	SWEDEN	0.28	0.48	70.94
91	SWITZERLAND	4.53	3.05	-32.71
92	SYRIA	7.72	4.22	-45.3
93	TANZANIA REP	0		
94	THAILAND	0		
95	TURKEY	2.75	1.71	-37.76
96	U ARAB EMTS	7.37	5.95	-19.28
97	U K	5.96	6.86	15.03
98	UKRAINE	5.34	5.79	8.5
99	U S A	7.36	6.1	-17.16
100	VIETNAM SOC REP	0.26		
101	ZAMBIA	0	0	300
	Total	528.68	464.11	-12.21
India's Total		3,30,078.09	3,13,361.04	-5.06
%Share		0.1602	0.1481	

Source: Export Import Data Bank, Department of Commerce

Section 11: Unit values

Demand for an item is inversely related to its own price and directly related to the prices of its substitutes. Considering that the exports from other countries can be a replacement for Indian exports of Coffee, coffee husks and skins and coffee substitutes (ITCHS 0901), if the prices of these substitutes fall relative to the prices of Indian exports, then the demand for Indian exports will fall as well. The absolute values are given in Table 25. Among the top exporters of coffee, we find that for Indian exports, the unit values started ranged from 2.15 to 2.57 between 2015 from 2019 (in US \$/kg), comparable to unit values from Brazilian and Vietnamese exports. For Colombia, Germany and Switzerland, the coffee unit values are higher than Indian values, implying higher demand and competitive edge in exports of coffee for India vis-à-vis these other exporters.

Table 25: Unit values of Coffee, coffee husks and skins and coffee substitutes (ITCHS 0901) exports from top exporting countries (in US\$/kg)

Countries	2015	2016	2017	2018	2019
Brazil	2.77	2.66	2.80	2.39	2.05
Viet Nam	1.88	1.78	2.12	3.31	1.56
Colombia	3.59	3.33	3.58	3.23	3.07
Germany	4.27	4.11	4.54	4.28	3.98
Switzerland	32.62	30.48	31.02	30.59	29.90
India	2.57	2.19	2.42	2.23	2.15

Source: Computed from UN Comtrade database

Table 26 shows the prices relative to Indian exports of coffee which help in understanding the substitution effect, if any. It is evident, the Indian prices compare more or less to Brazil and Vietnam as mentioned above in the world exports market of coffee.

Table 26: Unit values of Coffee, coffee husks and skins and coffee substitutes (ITCHS 0901) exports from top exporting countries (in US\$/kg) relative to India

Countries	2015	2016	2017	2018	2019
Brazil	1.08	1.22	1.16	1.07	0.95
Viet Nam	0.73	0.82	0.87	1.49	0.73
Colombia	1.40	1.52	1.48	1.45	1.43
Germany	1.67	1.88	1.87	1.92	1.85
Switzerland	12.71	13.93	12.81	13.75	13.90
India	1.00	1.00	1.00	1.00	1.00

Source: Computed from UN Comtrade database

Colombia, Germany and Switzerland had dearer export prices for coffee, providing an excellent opportunity for India to enter markets and capture market sizes competitively vis-à-vis these other coffee exporters, in terms of price competitiveness.

Section 12: Summary

India remains the 13th largest exporter of coffee in the world, from 2015-19. The Coffee Board of India was established by an act of Parliament in 1942 as the regulatory authority and promotional body for coffee industry. The Coffee Board's traditional duties included the promotion of the sale and consumption of coffee in India and abroad, conducting coffee research, financial assistance to establish small coffee growers, safeguarding working conditions for laborers, and managing the surplus pool of unsold coffee.

Italy, Germany, Belgium, Jordan and Kuwait are the countries which constituted the largest markets for India's exports of coffee from 2015-2019 with export-value shares of 28%, 16%, 9%, 4% and 3%

respectively in 2019. Vietnam, Indonesia, Uganda, Kenya and CÃte d'Ivoire are the countries from which India imported coffee, in descending order of magnitude of import-values, from 2015 to 2019. Thus, Indian coffee imports of value around of 93% were sourced from these five countries in 2019.

The market indicators for India in terms of coffee trade can be improved with respect to other major importers. The low values of Export Trade Intensity with respect to USA, Germany, Japan and France is a testimony to this. Lower values of the Competitiveness index between India and the major coffee importing countries, USA, Germany, France and Japan are also a testament to the untapped possibility of Indian exports of coffee, tea, mate and spices. Unit values analysis of coffee (ITC-HS code 0901) also point out that the Indian export unit values are comparable to unit values form Brazilian and Vietnamese coffee exports. For Colombia, Germany and Switzerland, the coffee unit values are higher than Indian values, implying higher demand and competitive edge in exports of coffee for India vis-à-vis these other exporters. Therefore, it is recommended that appropriate policies should be taken in order to expand exports to new markets, increase the stability of exports, and meet international standards of high-value markets.

Appendix A

Countries requiring market-specific export-promotion policies. This list of destination countries for India with respect to export of coffee items (at the 6-digit ITC- HS level) is based on the UN Comtrade data for year 2018.

To Partner Country	Reporter Country	Commodity Code 6
ALBANIA	INDIA	090111
ALGERIA	INDIA	090111
ARMENIA	INDIA	090111
AUSTRALIA	INDIA	090111
		090190
BAHARAIN IS	INDIA	090190
BELGIUM	INDIA	090111
BHUTAN	INDIA	090190
BOTSWANA	INDIA	090190
CANADA	INDIA	090111
		090190
CROATIA	INDIA	090111
CYPRUS	INDIA	090111
EGYPT A RP	INDIA	090111
FINLAND	INDIA	090111
GEORGIA	INDIA	090111
GERMANY	INDIA	090111
GREECE	INDIA	090111
ISRAEL	INDIA	090190
ITALY	INDIA	090111
JAPAN	INDIA	090111
JORDAN	INDIA	090111
KUWAIT	INDIA	090190
LEBANON	INDIA	090111
LIBERIA	INDIA	090190
LIBYA	INDIA	090111
MALAYSIA	INDIA	090111
MALDIVES	INDIA	090190
MONTENEGRO	INDIA	090111
MOROCCO	INDIA	090111
NEPAL	INDIA	090190

NEW ZEALAND	INDIA	090111
		090190
OMAN	INDIA	090190
POLAND	INDIA	090111
PORTUGAL	INDIA	090111
QATAR	INDIA	090190
RUSSIA	INDIA	090111
SAUDI ARAB	INDIA	090190
SEYCHELLES	INDIA	090190
SLOVENIA	INDIA	090111
SOMALIA	INDIA	090190
SPAIN	INDIA	090111
SWEDEN	INDIA	090111
SWITZERLAND	INDIA	090190
SYRIA	INDIA	090111
TANZANIA REP	INDIA	090190
TUNISIA	INDIA	090111
U ARAB EMTS	INDIA	090190
U K	INDIA	090190
U S A	INDIA	090111
UGANDA	INDIA	090111
UKRAINE	INDIA	090111
ZAMBIA	INDIA	090190

Appendix B

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,

$$RCA_{ij} = (x_{ij}/X_{it}) / (x_{wj}/X_{wt})$$

where x_{ij} = country i 's exports of commodity j

X_{it} = country i 's total exports

x_{wj} = world exports of commodity j

X_{wt} = total world exports.

When $RCA_{ij} > 1$, i.e. when j 's weight in i 's exports (x_{ij}/X_{it}) is more than j 's weight in world exports (x_{wj}/X_{wt}), country i is said to have a revealed comparative advantage in commodity j . There is a revealed comparative disadvantage if $RCA_{ij} < 1$. When $RCA_{ij} = 1$, 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. (x_{ij}/X_{it}) may have risen less or fallen more than proportionately than (x_{wj}/X_{wt}).

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).

$$ESI = (x_{ij}/X_{it}) / (m_{kj}/M_{kt}), \text{ where}$$

m_{kj} = import of commodity j to market k

M_{kt} = world imports of commodity k .

(m_{kj}/M_{kt}) gives the weight of j in market k . So, if RCA_{ij} 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.

$$RCII = (m_{ij}/M_{it}) / (m_{wj}/M_{wt})$$

where m_{ij} = country i 's imports of commodity j

M_{it} = country i 's total imports

m_{wj} = world imports of commodity j

M_{wt} = 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:

$$TCI = 1 - \sum (|mik - xij | / 2) , \text{ where}$$

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).

$$EII = (xij/Xit)/(xwj/Xwt)$$

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 it is low, and if TCI is high, bilateral trade can very well be increased through trade agreements.

6. A related 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 x_i is the country's exports of commodity i

X_t 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).

$$IIT_{jk} = 1 - \left[\frac{\sum |X_{ijk} - M_{ijk}|}{X_{ijk} + M_{ijk}} \right]$$

where X_{ijk} = exports of products of industry i from country j to country k

M_{ijk} = 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).
