

# UNITED ARAB EMIRATES

## Country profile and trade aspects

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# I Overview

The United Arab Emirates (UAE), or the Emirates is a country in Western Asia located at the eastern end of the Arabian Peninsula. It borders Oman and Saudi Arabia, and has maritime borders in the Persian Gulf with Qatar and Iran. The UAE is an elective monarchy formed from a federation of seven emirates, consisting of Abu Dhabi (which serves as the capital), Ajman, Dubai, Fujairah, Ras Al Khaimah, Sharjah and Umm Al Quwain. Each emirate is governed by a Sheikh and, together, they form the Federal Supreme Council; one of them serves as President of the United Arab Emirates.

In 2013, the UAE's population was 9.2 million, and the estimated population in 2020 was 9.89 million. Islam is the official religion and Arabic is the official language. The UAE's oil and natural gas reserves are the sixth- and seventh-largest in the world, respectively.

Zayed bin Sultan Al Nahyan, ruler of Abu Dhabi and the country's first president, oversaw the development of the Emirates by investing oil revenues into healthcare, education, and infrastructure. The UAE's economy is the most diversified of all the members of the Gulf Cooperation Council, while its most populous city, Dubai, is a global city and international hub. The country has become less reliant on oil and gas, and is economically focusing on tourism and business. The UAE government does not levy income tax, although there is a system of corporate tax in place and value-added tax at 5% was established in 2018. The UAE is recognized as a regional and a middle power. The UAE is a member of the United Nations, the Arab League, the Organization of Islamic Cooperation, OPEC, the Non-Aligned Movement, and the Gulf Cooperation Council.

UAE ranks 31<sup>st</sup> in the human development index<sup>1</sup> with Life expectancy at birth (years) at 78, Expected years of schooling (years) at 14.3, Mean years of schooling (years) at 12.1 and Gross national income (GNI) per capita (PPP \$) at 67,462, taking the net HDI value (2019) to 0.890.

The GDP (real) growth rate of the UAE economy was 1.2% in 2018 and 1.7% in 2019, with Consumer Prices Inflation rate of -1.93% (negative) in 2019 and unemployment rate of 2.35% in 2019. Furthermore, it is the 62<sup>nd</sup> most complex economy according to the Economic Complexity Index<sup>2</sup>. A detailed data outlining UAE's country profile is shown in Table A in Appendix A.

# II Economic History

The federation's economy is dominated by the petroleum produced primarily in the Abu Dhabi emirate. The wealthiest of the emirates, Abu Dhabi contains one of the largest concentrations of the world's proven oil reserves and contributes a significant portion of the national budget. The emirate of Dubai, whose economy is centered more on business than on oil, serves as a commercial and financial hub for the region and leads the country in economic diversification.

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1 As per the Human Development Report 2020.

2 Sourced from Harvard's Atlas of Economic Complexity

Oil was discovered in Abu Dhabi in 1958, and the government of that emirate owns a controlling interest in all oil-producing companies in the federation through the Abu Dhabi National Oil Company (ADNOC). Abu Dhabi is responsible for about 95 percent of the country's oil production, and production of petroleum and natural gas contributes about one-third of the nation's GDP, even though the oil and gas sector employs only a tiny fraction of the workforce.

Petroleum production in Dubai began in 1969. The emirate long maintained a controlling interest in its oil fields and took full control of oil production in 2007. At its peak, Dubai produced about one-sixth of the country's total output of petroleum. Production dwindled to a negligible amount, however, as the emirate diversified its economy. Sharjah began producing oil in 1974; another field, predominantly yielding natural gas, was discovered six years later. In 1984 oil production began off the shore of Ras al-Khaymah, in the Persian Gulf. The federation's natural gas reserves are among the world's largest, and most fields are found in Abu Dhabi. In the late 1990s the United Arab Emirates began investing heavily to develop its natural gas sector, both for export and to fire domestic thermal power plants.

Because it relies on energy-intensive technologies such as water desalination and air-conditioning and because subsidies on fuel have encouraged wasteful energy use, the United Arab Emirates has one of the world's highest per capita rates of energy consumption. Despite its large hydrocarbon reserves, rapidly increasing domestic demand driven by population growth and industrialization in the first decade of the 21<sup>st</sup> century forced the emirates to import natural gas and to draw upon petroleum reserves at a fraction of the export price.

The emirates have attempted to diversify their economy to avoid complete dependence on oil, and manufacturing has played a significant part in that effort. The Burj Khalifa ("Khalifa Tower") skyscraper in Dubai city became the world's tallest building and the tallest freestanding structure when it opened in 2010. Sharjah has built a cement plant, a plastic-pipe factory, and paint factories. Manufacturing accounts for less than one-tenth of GDP in the country overall.

### **III The Modern Economy: Macroeconomic Indicators**

The IMF projected a Real GDP growth rate of 3.1 % with 2.9% growth projected in Consumer Prices in 2021 for UAE.

In November, 2018, the Executive Board of the International Monetary Fund (IMF) concluded the Article IV consultation<sup>1</sup> with the United Arab Emirates. The economy, that started to recover from the 2015–16 slowdown caused by a decline in oil prices : the growth momentum is expected to strengthen in the next few years with increased investment and private sector credit, improved prospects in trading partners, and a boost to tourism. Non-oil growth was projected to rise to 3.9 percent in 2019 and 4.2 percent in 2020. The oil sector's prospects have also improved with higher oil prices and output. Inflation is expected to remain low, notwithstanding the introduction of the value-added tax (VAT) earlier in 2018. Although nonperforming loans rose during the slowdown, banks remain liquid and well capitalized, with fiscal easing underway to facilitate the recovery. The

overall fiscal balance was projected to turn to a surplus on higher oil prices and remain positive over the medium term. The external position also improved. The current account was predicted to rise to nearly 8 percent of GDP by 2019 owing to higher oil revenues.

The IMF Executive Board noted of the challenges the UAE economy has been facing, particularly a prolonged decline in oil prices, and commended the authorities for their strong policy response, including the introduction of the value-added tax, stepped up structural reforms, and the upgrading of the prudential framework. While noting the improved economic prospects, Directors stressed that the external downside risks to the outlook have risen and encouraged the authorities to continue their efforts to bolster economic growth and safeguard macro-financial stability. In this context, Directors stressed the importance of increasing supervisory vigilance and strengthening management of contingent liabilities from borrowing by government-related enterprises, government guarantees, and public-private partnerships.

The IMF Executive Board agreed that the main fiscal policy priority is to support economic growth in the short term and resume fiscal consolidation once the recovery takes hold, to ensure sufficient savings of exhaustible oil revenue for future generations and debt sustainability. Directors welcomed the authorities' efforts to strengthen their fiscal policy frameworks and coordination, noting the importance of continuing progress in this area to realize the authorities' socio-economic Vision 2021 agenda, avoid policy procyclicality, and improve risk management.

The Executive Directors agreed that creating a vibrant, diversified, and knowledge-based economy will require continued reforms to boost the role of the private sector and promote talent and inclusiveness. They welcomed the recently announced reforms, including the liberalization of foreign investment, and encouraged the authorities to swiftly implement them, while broadening and deepening policy initiatives to improve productivity and competitiveness.

The Executive Board also commended the authorities on their implementation of the Enhanced General Data Dissemination Systems and other steps to improve economic statistics. They emphasized the need for further progress, including improving labor, fiscal, national accounts, and international investment position statistics, to facilitate decision-making and enhance transparency.

## **IV Trade Policy**

The United Arab Emirates has been a member of WTO since 10 April 1996 and a member of GATT since 8 March 1994.

Trade, investment and development policy in the UAE is focused on diversification of the economy, with a particular emphasis on improving competitiveness and high technology sectors. Free zones and economic specialized zones are important facets of the UAE economy and the Government's growth strategy. At the Federal level, the Ministry of Economy is responsible for trade policy and development of the national economy. As a member of the GCC, the UAE applies the Common Customs Law, the common external tariff, the Unified Guide for Customs Procedures at First Points

of Entry, the Common Law on Anti-dumping and Countervailing Measures, and other common rules relating to trade. Also through the GCC, the UAE is a party to free trade agreements with the EFTA states and Singapore and negotiations on trade agreements with several other countries.

Trade is critically important to the UAE with total trade in goods and services equivalent to nearly 176% of GDP in 2015. The surplus in trade-in-goods is partly offset by a large deficit in trade-in-services. Balance of payments data indicates that the total value of goods exports fell in 2014 to US\$371 billion as oil and natural gas exports fell to US\$112 billion and are expected to have fallen further to US\$75 billion in 2015. Nevertheless, the UAE continues to run a current account surplus.

## V Trade Analysis

While presenting the overview of UAE's international trade data, this section will particularly focus on the bilateral trade between UAE and India in details.

### 1. UAE's Imports and Exports

Tables 1.1 to 1.4 show the list of UAE's top 20 source countries and destination countries for merchandise trade. From tables 1.1 and 1.2, it is manifest that Areas, nes, China, India and USA are the top 4 countries accounting for 45% in UAE's imports of merchandise from 2015 to 2019. India accounts for 9.27% in UAE's goods' imports in 2019, with an average hovering around 7.88% from 2015 to 2019.

*Table 1.1: UAE's Imports of Merchandise in billion US dollars*

<b>Partner Country</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>Grand Total</b>
World	287.02	270.78	257.69	244.65	288.40	1,348.53
Areas, nes	102.86	81.67	6.10	0.08	39.37	230.08
China	22.85	22.42	46.95	38.01	40.78	171.01
India	17.86	18.67	19.99	23.06	26.74	106.32
USA	19.33	20.59	22.92	20.92	20.02	103.78
Japan	10.40	9.66	13.70	13.81	12.61	60.18
Germany	11.93	12.59	11.51	10.94	10.07	57.05
United Kingdom	6.17	5.20	6.69	7.69	7.29	33.04
Italy	5.50	5.41	6.71	6.65	6.56	30.83
Viet Nam	2.38	2.64	9.71	7.67	7.19	29.59
Saudi Arabia	3.95	4.47	6.74	7.58	6.85	29.58
France	4.66	4.45	6.24	6.51	6.76	28.63
Rep. of Korea	5.28	4.77	7.24	5.56	3.84	26.69
Switzerland	4.67	3.85	4.98	5.84	4.11	23.44
Turkey	3.42	4.66	7.45	3.45	3.54	22.51
Belgium	3.80	3.69	3.73	3.11	2.69	17.02
Thailand	2.82	2.62	3.68	3.35	3.42	15.89

China, Hong Kong SAR	3.42	2.78	3.47	3.47	2.72	15.85
Malaysia	2.96	2.70	2.12	2.92	2.78	13.48
Others	52.77	57.92	67.77	74.03	81.06	333.55
<b>Total</b>	<b>574.05</b>	<b>541.56</b>	<b>515.37</b>	<b>489.29</b>	<b>576.80</b>	<b>2,697.07</b>

Source: UN Comtrade database

Table 1.2: Shares (%) of countries in UAE's Imports of Merchandise

Partner Country	2015	2016	2017	2018	2019	Share (%)
Areas, nes	35.84	30.16	2.37	0.03	13.65	17.06
China	7.96	8.28	18.22	15.54	14.14	12.68
India	6.22	6.89	7.76	9.43	9.27	7.88
USA	6.74	7.60	8.90	8.55	6.94	7.70
Japan	3.62	3.57	5.32	5.64	4.37	4.46
Germany	4.16	4.65	4.47	4.47	3.49	4.23
United Kingdom	2.15	1.92	2.60	3.14	2.53	2.45
Italy	1.92	2.00	2.60	2.72	2.27	2.29
Viet Nam	0.83	0.98	3.77	3.13	2.49	2.19
Saudi Arabia	1.38	1.65	2.61	3.10	2.37	2.19
France	1.62	1.65	2.42	2.66	2.35	2.12
Rep. of Korea	1.84	1.76	2.81	2.27	1.33	1.98
Switzerland	1.63	1.42	1.93	2.39	1.43	1.74
Turkey	1.19	1.72	2.89	1.41	1.23	1.67
Belgium	1.32	1.36	1.45	1.27	0.93	1.26
Thailand	0.98	0.97	1.43	1.37	1.19	1.18
China, Hong Kong SAR	1.19	1.03	1.34	1.42	0.94	1.18
Malaysia	1.03	1.00	0.82	1.19	0.96	1.00
Others	18.39	21.39	26.30	30.26	28.11	24.73
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Source: UN Comtrade database

Table 1.3: UAE's Exports of Merchandise in billion US dollars

Partner Country	2015	2016	2017	2018	2019	Grand Total
World	300.48	295.05	313.56	387.91	389.37	1,686.37
Areas, nes	196.36	190.72	162.24	214.30	201.87	965.48
Saudi Arabia	6.59	4.76	14.53	21.67	23.99	71.55
India	10.57	11.26	14.41	12.85	14.67	63.75
Iran	10.81	8.81	14.18	10.23	7.08	51.12
Iraq	6.77	5.36	10.70	11.31	13.74	47.89
Oman	5.49	5.15	7.18	10.28	10.89	39.00

Switzerland	4.13	7.42	3.68	9.41	13.66	38.31
Kuwait	3.14	2.51	5.00	8.39	8.54	27.57
USA	2.50	3.46	7.45	6.26	6.39	26.07
China	2.51	3.66	4.99	5.12	9.37	25.65
China, Hong Kong SAR	4.05	3.74	5.31	6.29	5.63	25.03
Belgium	4.10	4.53	4.02	4.47	3.03	20.15
Turkey	2.72	2.80	5.69	4.27	3.83	19.31
United Kingdom	1.91	2.72	3.53	3.59	2.66	14.42
Bahrain	2.22	1.77	2.31	4.42	3.54	14.26
Singapore	2.46	2.45	2.34	2.17	2.61	12.03
Egypt	1.07	0.89	2.64	3.57	3.67	11.84
Pakistan	1.06	1.29	2.49	2.46	3.48	10.78
Others	32.00	31.72	40.87	46.83	50.72	202.15
<b>Total</b>	<b>600.96</b>	<b>590.09</b>	<b>627.12</b>	<b>775.82</b>	<b>778.75</b>	<b>3,372.73</b>

Source: UN Comtrade database

Table 1.4: Shares (%) of countries in UAE's Exports of Merchandise

Partner Country	2015	2016	2017	2018	2019	Share (%)
Areas, nes	65.35	64.64	51.74	55.24	51.85	57.25
Saudi Arabia	2.19	1.61	4.63	5.59	6.16	4.24
India	3.52	3.81	4.60	3.31	3.77	3.78
Iran	3.60	2.99	4.52	2.64	1.82	3.03
Iraq	2.25	1.82	3.41	2.92	3.53	2.84
Oman	1.83	1.74	2.29	2.65	2.80	2.31
Switzerland	1.38	2.52	1.17	2.43	3.51	2.27
Kuwait	1.04	0.85	1.59	2.16	2.19	1.63
USA	0.83	1.17	2.38	1.62	1.64	1.55
China	0.84	1.24	1.59	1.32	2.41	1.52
China, Hong Kong SAR	1.35	1.27	1.69	1.62	1.45	1.48
Belgium	1.37	1.53	1.28	1.15	0.78	1.19
Turkey	0.91	0.95	1.81	1.10	0.98	1.15
United Kingdom	0.64	0.92	1.13	0.93	0.68	0.86
Bahrain	0.74	0.60	0.74	1.14	0.91	0.85
Singapore	0.82	0.83	0.75	0.56	0.67	0.71
Egypt	0.36	0.30	0.84	0.92	0.94	0.70
Pakistan	0.35	0.44	0.80	0.63	0.89	0.64
Others	10.65	10.75	13.03	12.07	13.03	11.99
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Source: UN Comtrade database



From tables 1.3 and 1.4, it is seen that Areas, nes, Saudi Arabia, India and Iran are the top 4 export destinations of UAE, accounting for about 68% of UAE's exports from 2015 to 2019. Share of India in UAE's merchandise export is 3.78%.

Using the ITC HS commodity codes, tables 1.5 and 1.6 highlight the top 10 commodities, at the double digit aggregation, that comprises UAE's imports and exports respectively.

*Table 1.5: Shares (%) of top 10 Commodities in UAE's Imports of Merchandise*

<b>ITC-HS Chapter</b>	<b>Commodity Description</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
HS-71	Natural, cultured pearls; precious, semi-precious stones; precious metals, metals clad with precious metal, and articles thereof; imitation jewellery; coin	15.75	19.53	21.23	22.13	20.31
HS-99	Commodities not specified according to kind	35.84	30.17	2.37	0.01	0.01
HS-85	Electrical machinery and equipment and parts thereof; sound recorders and reproducers; television image and sound recorders and reproducers, parts and accessories of such articles	6.38	6.93	17.55	13.99	12.73
HS-84	Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof	7.31	7.63	11.67	11.69	9.76
HS-87	Vehicles; other than railway or tramway rolling stock, and parts and accessories thereof	6.65	6.00	8.46	8.36	6.67
HS-27	Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes	0.68	1.13	3.63	6.31	19.33
HS-88	Aircraft, spacecraft and parts thereof	3.00	4.59	3.30	2.85	1.61
HS-73	Iron or steel articles	1.53	1.54	1.88	2.20	1.54
HS-39	Plastics and articles thereof	1.34	1.30	1.66	1.99	1.64
HS-72	Iron and steel	1.23	1.12	1.59	2.13	1.49
	Others	20.29	20.05	26.66	28.33	24.91
	<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

*Source: UN Comtrade database*

*Table 1.6: Shares (%) of top 10 Commodities in UAE's Exports of Merchandise*

<b>ITC-HS Chapter</b>	<b>Commodity Description</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
HS-27	Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes	20.80	16.12	20.12	31.34	54.77
HS-99	Commodities not specified according to kind	44.92	48.86	33.08	25.04	0.01

HS-71	Natural, cultured pearls; precious, semi-precious stones; precious metals, metals clad with precious metal, and articles thereof; imitation jewellery; coin	13.46	14.33	14.83	11.83	12.28
HS-85	Electrical machinery and equipment and parts thereof; sound recorders and reproducers; television image and sound recorders and reproducers, parts and accessories of such articles	2.68	2.25	7.37	7.04	7.83
HS-84	Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof	2.64	2.70	4.91	4.54	4.79
HS-87	Vehicles; other than railway or tramway rolling stock, and parts and accessories thereof	2.98	2.66	3.92	3.32	3.12
HS-76	Aluminium and articles thereof	1.76	1.72	1.98	1.64	1.42
HS-39	Plastics and articles thereof	1.15	1.84	1.56	1.42	1.55
HS-88	Aircraft, spacecraft and parts thereof	0.60	0.66	1.02	1.08	0.79
HS-73	Iron or steel articles	0.66	0.62	0.74	0.87	0.97
Others		8.35	8.25	10.47	11.87	12.47
<b>Total</b>		<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Source: UN Comtrade database

The top 5 highest imported products constitute chapters HS-71, HS-99, HS-85, HS-84 and HS-87 (refer to table 1.5). On the other hand, UAE's dominant export basket constitutes chapters HS-27, HS-99, HS-71, HS-85 and HS-84 (refer to table 1.6). Thus, item categories viz. "Natural, cultured pearls; precious, semi-precious stones; precious metals, metals clad with precious metal, and articles thereof; imitation jewellery; coin", "Commodities not specified according to kind", "Electrical machinery and equipment and parts thereof; sound recorders and reproducers; television image and sound recorders and reproducers, parts and accessories of such articles" and "Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof" dominate both the export and import baskets in UAE's international trade.

## 2. Export Trade Intensity Index

Export Trade Intensity Index (ETII) of a country (here, India) with respect to an importing country (here, UAE) 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 importing country's market share in the world market.<sup>2</sup> Table 2.1, which states the ETII of BRICS countries and USA with respect to UAE, shows that apart for India, the ETII value is

<sup>2</sup> See Appendix D for the formula of Export Intensity Index.

extremely high (in fact the highest among the BRICS countries and USA), at 8.6 in 2019. China and South Africa also have ETII >1, implying stronger trade ties than average between UAE and India (and China and South Africa).

*Table 2.1: Export Intensity Indices (ETIIs) of BRICS Countries and USA w.r.t. UAE*

Countries	2015	2016	2017	2018	2019
India	7.30	8.43	7.20	7.55	8.58
Brazil	0.84	0.88	0.85	0.72	0.61
China	1.05	1.05	0.94	1.02	1.24
South Africa	1.05	1.31	1.47	1.65	1.53
USA	0.98	1.12	0.98	1.01	1.14
Russia	0.18	0.25	0.28	0.28	0.34

*Source: UN Comtrade database*

Elaborating on the ETII, table 2.2 shows the disaggregated value of this index for India with respect to UAE. The index is calculated for each of the 2-digit ITC HS commodity codes and a higher value, greater than 1, represents that the Indian exports, of those specific chapters, to UAE are relatively performing better than the world averages.

*Table 2.2: ITC-HS Chapter-wise Export Intensity Indices for India w.r.t UAE in 2019*

ITC-HS Chapter	Trade Intensity Index (TII)	ITC-HS Chapter	Trade Intensity Index (TII)	ITC-HS Chapter	Trade Intensity Index (TII)	ITC-HS Chapter	Trade Intensity Index (TII)
45	149.68	74	7.78	15	4.56	57	1.87
80	64.69	46	7.70	10	4.49	60	1.83
22	33.31	39	7.54	33	4.29	17	1.79
47	32.52	89	7.06	40	3.95	12	1.74
35	23.60	62	6.96	69	3.75	51	1.67
11	21.85	19	6.96	68	3.61	41	1.54
27	20.32	58	6.90	75	3.57	67	1.34
28	19.82	78	6.79	92	3.53	23	1.17
85	16.08	49	6.68	84	3.38	16	0.97
48	15.71	34	6.38	25	3.33	99	0.41
65	15.27	83	6.20	87	3.24	86	0.26
43	14.69	66	6.05	42	3.19	88	0.24
70	13.26	81	5.92	13	2.98	93	0.03
59	12.73	79	5.58	76	2.89	01	0.00
37	10.56	20	5.54	54	2.80	02	0.00
97	10.39	53	5.54	32	2.80	03	0.00
61	9.71	18	5.45	91	2.78	04	0.00
95	9.27	90	5.35	50	2.68	05	0.00

24	9.14	29	5.32	38	2.63	06	0.00
56	9.05	96	5.16	30	2.60	07	0.00
31	8.91	26	5.16	55	2.55	08	0.00
82	8.79	71	5.10	63	2.34	09	0.00
72	8.74	73	5.05	94	2.31		
21	8.58	14	4.96	52	2.22		
44	8.30	64	4.85	36	2.01		

Source: Computed from UN Comtrade Database

In Table 2.2, the chapters are arranged in order of magnitude from largest to smallest values of ETII. From the above table, it is clear that there are several chapters which have an index value greater than 1, that is also manifesting in the extremely high value of ETII as discussed earlier (in Table 2.1) between India and UAE (>7). Thus, bilateral agreements may not further increase trade intensity between India and UAE. This argument is further strengthened since the Trade Complementarity Index (TCI) between India and UAE is not very high (0.36 in the year 2019) as seen in the next section.

### 3. Trade Complementarity Index

The ITC-HS chapters identified in the previous section is only a short-list, for it narrates half the story. Trade takes place when there is a complementarity of demand and supply, in the present case, between the demand of UAE and the supply of India. The Trade Complementarity Index (TCI) is a measure of this match, and the value of the index between Indian exports and UAE imports in 2019 stood at 0.36, which is less than the chain/average index between Indian exports and world imports at 0.39. Hence, the Relative Trade Complementarity Index is 0.91 (i.e. < 1), meaning that India's exports have less complementarity with UAE imports than with world imports.<sup>3</sup>

TCI is computed by taking the shares of each commodity (here, at the ITC-HS 6-digit level) in the export basket of India, and then the corresponding shares of these commodities in the import basket of UAE, calculating the absolute value of the difference between the two for each 6-digit level commodity, summing the differences up, dividing the sum by 2, and subtracting what we get from 1. So, the differences in the shares are the major determinants.

Table 3.1: Trade Complementarity Index (including Relative) between India and UAE

	2015	2016	2017	2018	2019
<b>TCI Between India and UAE<sup>4</sup></b>	0.29	0.29	0.50	0.37	0.36
<b>TCI Between India<sup>5</sup> and World</b>	0.41	0.38	0.40	0.41	0.39
<b>RTCPI<sup>6</sup></b>	0.70	0.77	1.26	0.91	0.91

<sup>3</sup> See RTCI in Appendix D.

<sup>4</sup> Trade Complementarity Index between India and UAE.

<sup>5</sup> Trade Complementarity Index between India and World.

<sup>6</sup> Relative Trade Complementarity Index between India and UAE.

Table 3.2: Trade Complementarity Index (including Relative) between selected countries (largest exporters to UAE) and UAE in 2019

Countries	TCI	TCIW	RTCI
Areas, nes	0.50	0.50	1.00
China	0.34	0.51	0.68
India	0.36	0.39	0.91
USA	0.38	0.67	0.57
Japan	0.28	0.47	0.59
Germany	0.35	0.61	0.57

Source: Computed from UN Comtrade Database

When we compare the Relative Trade Complementarity Index (RTCI) between India and UAE to that of other exporting countries and UAE in table 3.2, we see that India's RTCI is much lower compared to the largest exporters to UAE (even though trade intensity is very high). The differences at the individual ITC-HS 2-digit level are examined to find out at which products the complementarities lie and where there is a greater match between demand (imports) and supply (exports).

The ITC-HS 2-digit code-wise composition of Indian exports and UAE imports is given in table 3.3 below.

Table 3.3: Composition of India's Exports and UAE's Imports in 2019 (ITC-HS chapter-wise)

ITC-HS Chapter	India		UAE	
	Exports(Bn \$)	Share of Chapters (%)	Imports(Bn \$)	Share of Chapters (%)
HS-01	0.02	0.01	0.12	0.04
HS-02	3.45	1.07	2.28	0.79
HS-03	6.30	1.95	0.65	0.22
HS-04	0.45	0.14	1.73	0.60
HS-05	0.10	0.03	0.01	0.00
HS-06	0.08	0.02	0.08	0.03
HS-07	1.09	0.34	0.95	0.33
HS-08	1.49	0.46	2.36	0.82
HS-09	3.30	1.02	0.68	0.24
HS-10	7.07	2.19	1.08	0.37
HS-11	0.31	0.10	0.12	0.04
HS-12	1.70	0.53	1.00	0.35
HS-13	0.94	0.29	0.06	0.02
HS-14	0.05	0.02	0.01	0.00
HS-15	1.17	0.36	0.51	0.18
HS-16	0.47	0.14	0.22	0.08
HS-17	1.97	0.61	0.55	0.19
HS-18	0.19	0.06	0.75	0.26
HS-19	0.54	0.17	0.95	0.33

HS-20	0.61	0.19	0.56	0.19
HS-21	0.83	0.26	0.91	0.32
HS-22	0.28	0.09	1.14	0.40
HS-23	1.45	0.45	0.25	0.09
HS-24	0.96	0.30	1.20	0.42
HS-25	2.01	0.62	0.42	0.14
HS-26	3.03	0.94	1.07	0.37
HS-27	44.53	13.78	55.76	19.33
HS-28	1.82	0.56	3.02	1.05
HS-29	18.25	5.64	1.75	0.61
HS-30	16.26	5.03	4.08	1.41
HS-31	0.13	0.04	0.08	0.03
HS-32	3.50	1.08	0.73	0.25
HS-33	2.36	0.73	3.18	1.10
HS-34	0.64	0.20	0.97	0.34
HS-35	0.23	0.07	0.17	0.06
HS-36	0.12	0.04	0.04	0.01
HS-37	0.01	0.00	0.11	0.04
HS-38	5.14	1.59	1.52	0.53
HS-39	7.35	2.27	4.73	1.64
HS-40	3.23	1.00	1.83	0.64
HS-41	0.55	0.17	0.03	0.01
HS-42	2.51	0.78	1.27	0.44
HS-43	0.01	0.00	0.02	0.01
HS-44	0.48	0.15	1.03	0.36
HS-45	0.00	0.00	0.00	0.00
HS-46	0.05	0.01	0.03	0.01
HS-47	0.01	0.00	0.28	0.10
HS-48	2.06	0.64	1.49	0.52
HS-49	0.37	0.11	0.28	0.10
HS-50	0.08	0.03	0.02	0.01
HS-51	0.18	0.06	0.03	0.01
HS-52	6.00	1.86	0.12	0.04
HS-53	0.45	0.14	0.01	0.00
HS-54	2.34	0.72	0.74	0.26
HS-55	1.75	0.54	0.46	0.16
HS-56	0.42	0.13	0.14	0.05
HS-57	1.71	0.53	0.20	0.07
HS-58	0.41	0.13	0.08	0.03
HS-59	0.28	0.09	0.12	0.04

HS-60	0.44	0.14	0.13	0.04
HS-61	7.88	2.44	2.34	0.81
HS-62	8.36	2.59	2.09	0.73
HS-63	5.16	1.60	0.59	0.20
HS-64	2.81	0.87	2.01	0.70
HS-65	0.06	0.02	0.07	0.03
HS-66	0.00	0.00	0.01	0.00
HS-67	0.27	0.08	0.04	0.01
HS-68	1.70	0.53	0.71	0.25
HS-69	1.82	0.56	0.55	0.19
HS-70	0.91	0.28	0.74	0.26
HS-71	36.73	11.36	58.58	20.31
HS-72	9.77	3.02	4.31	1.49
HS-73	7.25	2.24	4.45	1.54
HS-74	0.90	0.28	3.10	1.08
HS-75	0.09	0.03	0.19	0.06
HS-76	5.24	1.62	1.11	0.39
HS-78	0.40	0.12	0.12	0.04
HS-79	0.56	0.17	0.29	0.10
HS-80	0.01	0.00	0.01	0.00
HS-81	0.05	0.02	0.08	0.03
HS-82	0.89	0.28	0.71	0.25
HS-83	0.67	0.21	0.69	0.24
HS-84	21.26	6.58	28.14	9.76
HS-85	14.94	4.62	36.72	12.73
HS-86	0.35	0.11	0.28	0.10
HS-87	17.41	5.39	19.23	6.67
HS-88	1.49	0.46	4.63	1.61
HS-89	5.80	1.79	0.43	0.15
HS-90	3.39	1.05	4.11	1.42
HS-91	0.10	0.03	1.78	0.62
HS-92	0.03	0.01	0.07	0.02
HS-93	0.13	0.04	0.01	0.00
HS-94	1.84	0.57	2.40	0.83
HS-95	0.42	0.13	0.97	0.34
HS-96	0.63	0.19	0.68	0.24
HS-97	0.13	0.04	1.99	0.69
HS-99	0.21	0.07	0.02	0.01
<b>Total</b>	<b>323.25</b>	<b>100</b>	<b>288.40</b>	<b>100</b>

Source: Computed from UN Comtrade Database

Complementarity in respect of a particular commodity group (here, ITC-HS two-digit level code) implies that India's exports of the commodity (to the world) is substantial, and so is UAE's imports of the commodity (from the world). As it is required to identify the sectors (ITC-HS 2-digit chapters) which have contributed most to the low level of complementarity, the absolute difference in shares – between the share in Indian exports and the share in UAE's imports – for each 2-digit code may be computed. Table 3.4 below shows the twenty 2-digit codes which have seen the highest differences. This will be of interest to framers of policy for aligning India's exports to UAE's imports to enhance trade complementarity between the two countries.

*Table 3.4: Top Twenty Chapters with highest absolute difference in shares in % (in Indian exports and UAE's imports in 2019)*

<b>ITC-HS Chapter</b>	<b>Commodity Description</b>	<b>Absolute Value of Difference in Shares (%)</b>	<b>Higher Share in</b>
HS-71	Natural, cultured pearls; precious, semi-precious stones; precious metals, metals clad with precious metal, and articles thereof; imitation jewellery; coin	8.95	UAE Imports
HS-85	Electrical machinery and equipment and parts thereof; sound recorders and reproducers; television image and sound recorders and reproducers, parts and accessories of such articles	8.11	UAE Imports
HS-27	Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes	5.55	UAE Imports
HS-29	Organic chemicals	5.03	Indian Exports
HS-30	Pharmaceutical products	3.62	Indian Exports
HS-84	Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof	3.18	UAE Imports
HS-62	Apparel and clothing accessories; not knitted or crocheted	1.86	Indian Exports
HS-52	Cotton	1.82	Indian Exports
HS-10	Cereals	1.82	Indian Exports
HS-03	Fish and crustaceans, molluscs and other aquatic invertebrates	1.73	Indian Exports
HS-89	Ships, boats and floating structures	1.64	Indian Exports
HS-61	Apparel and clothing accessories; knitted or crocheted	1.63	Indian Exports
HS-72	Iron and steel	1.53	Indian Exports
HS-63	Textiles, made up articles; sets; worn clothing and worn textile articles; rags	1.40	Indian Exports
HS-87	Vehicles; other than railway or tramway rolling stock, and parts and accessories thereof	1.28	UAE Imports
HS-76	Aluminium and articles thereof	1.23	Indian Exports
HS-88	Aircraft, spacecraft and parts thereof	1.15	UAE Imports
HS-38	Chemical products n.e.c.	1.06	Indian Exports



HS-32	Tanning or dyeing extracts; tannins and their derivatives; dyes, pigments and other colouring matter; paints, varnishes; putty, other mastics; inks	0.83	Indian Exports
HS-74	Copper and articles thereof	0.80	UAE Imports

Source: Computed from UN Comtrade Database

It is evident from table 3.4 that the least complementarities (or greatest differences in shares) of more than 5% lie in the HS Codes HS-71, HS-85, HS-27 and HS-29 and India may need to export these product categories more to UAE to bridge (or reduce) the demand (import) and supply (export) gap.

#### 4. RCA and RCII

The earlier approach was one way of looking at things. Another way involves the use of information regarding sectors which have a relative importance, in terms of value, in India's exports (relative to the importance in world exports), and which enjoy a similar relative importance in UAE'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 India is higher than 1 if its importance is more in India's exports than in world exports, and vice versa. Similarly, RCII index for UAE's imports for a commodity (or commodity group) imported to UAE is higher than 1 if its importance is more in UAE's imports than in world imports, and vice versa.

Hence, those sectors – we analyse at the ITC-HS two-digit code level – which have both RCA for India and RCII for UAE higher than 1 are the sectors which India's exports and UAE's imports to an extent more than overall world trends warrant. Hence these are the sectors which are expected to see substantial Indian exports to UAE. Tables 4.1 and 4.2 shows values of RCA for Indian exports and of RCII for UAE's imports for 2019. Those chapters for which the values are above 1 are in red.

Table 4.1: RCA of Indian exports in 2019 – ITC-HS chapter-wise

ITC-HS Chapter	RCA	ITC-HS Chapter	RCA	ITC-HS Chapter	RCA	ITC-HS Chapter	RCA
13	6.88	42	1.67	70	0.69	95	0.20
57	6.47	72	1.62	96	0.68	97	0.17
52	6.45	36	1.54	87	0.67	81	0.16
53	6.12	30	1.52	59	0.63	80	0.14
63	4.59	67	1.50	21	0.61	31	0.13
10	4.12	38	1.43	34	0.60	22	0.13
78	3.33	73	1.37	49	0.57	91	0.10
71	3.17	27	1.31	20	0.56	45	0.10
14	3.02	24	1.26	84	0.55	43	0.08
17	2.96	23	1.15	16	0.54	66	0.05
89	2.91	64	1.12	86	0.53	37	0.04
55	2.83	12	1.08	83	0.53	99	0.03
25	2.76	46	1.03	35	0.44	47	0.01
54	2.63	40	1.01	93	0.43	01	

29	2.63	11	0.93	94	0.41	02	
32	2.50	28	0.92	19	0.40	03	
50	2.46	56	0.92	74	0.38	04	
62	2.30	33	0.89	65	0.33	05	
61	2.14	51	0.84	90	0.31	06	
58	1.91	15	0.83	85	0.31	07	
79	1.85	26	0.81	88	0.24	08	
68	1.84	82	0.77	18	0.22	09	
76	1.79	60	0.71	75	0.22		
69	1.77	48	0.71	44	0.21		
41	1.70	39	0.69	92	0.21		

Source: Computed from UN Comtrade Database

Table 4.2: RCII of UAE's imports in 2019 – ITC-HS chapter-wise

ITC-HS Chapter	RCII	ITC-HS Chapter	RCII	ITC-HS Chapter	RCII	ITC-HS Chapter	RCII
71	5.80	85	0.82	95	0.52	43	0.24
97	4.11	84	0.81	13	0.51	81	0.24
91	2.26	69	0.79	39	0.49	23	0.21
24	1.85	21	0.77	44	0.48	66	0.20
27	1.54	72	0.74	49	0.47	52	0.20
28	1.53	82	0.72	38	0.47	53	0.18
33	1.42	61	0.71	37	0.46	51	0.18
74	1.31	50	0.71	65	0.46	45	0.15
88	1.24	10	0.70	89	0.45	80	0.14
54	1.18	94	0.65	11	0.44	31	0.08
34	1.04	62	0.64	90	0.43	41	0.08
79	1.02	63	0.64	76	0.41	93	0.07
42	1.00	12	0.64	67	0.41	99	0.00
18	0.98	40	0.63	30	0.41	01	
17	0.98	70	0.63	75	0.41	02	
73	0.97	92	0.61	15	0.39	03	
78	0.96	22	0.60	56	0.38	04	
68	0.95	20	0.60	35	0.34	05	
57	0.94	83	0.59	47	0.34	06	
96	0.91	48	0.59	59	0.34	07	
64	0.90	32	0.59	16	0.31	08	
55	0.88	86	0.58	60	0.30	09	
46	0.83	58	0.56	14	0.27		
87	0.83	36	0.55	26	0.25		
19	0.83	25	0.53	29	0.25		

Source: Computed from UN Comtrade Database

Policymakers' focus should be to zero in on commodity groups for which RCA of Indian exports >1 and RCII of UAE imports >1 as these commodity groups have good potential for bilateral trade between India and UAE with India having a relatively superlative standing in production/supply of these commodities, which then have a larger than average import demand in UAE. These commodities should be the intersection set of ITC-HS chapters with RCA >1 in Table 4.1 and RCII >1 in Table 4.2. These commodities with their associated commodity descriptions are:

HS-71	Natural, cultured pearls; precious, semi-precious stones; precious metals, metals clad with precious metal, and articles thereof; imitation jewellery; coin
HS-24	Tobacco and manufactured tobacco substitutes
HS-27	Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes
HS-54	Man-made filaments; strip and the like of man-made textile materials
HS-79	Zinc and articles thereof

*Table 4.3 : RCA of Indian exports to UAE in 2019 – ITC-HS chapter-wise*

ITC-HS Chapter	RCA Between Countries	ITC-HS Chapter	RCA Between Countries	ITC-HS Chapter	RCA Between Countries	ITC-HS Chapter	RCA Between Countries
80	3.75	59	0.75	55	0.38	13	0.14
22	3.13	91	0.74	49	0.36	60	0.13
71	2.84	33	0.74	84	0.35	26	0.11
89	2.12	79	0.72	90	0.35	52	0.11
47	2.08	69	0.66	63	0.33	30	0.11
85	1.89	73	0.66	57	0.33	51	0.06
28	1.87	54	0.64	66	0.31	88	0.05
48	1.79	37	0.64	87	0.31	16	0.04
45	1.77	83	0.63	14	0.28	99	0.04
24	1.60	43	0.61	94	0.27	23	0.03
61	1.53	96	0.59	29	0.25	86	0.02
27	1.43	18	0.59	81	0.25	41	0.02
70	1.34	44	0.59	31	0.25	93	0.02
58	1.29	74	0.57	92	0.25		
35	1.26	39	0.56	32	0.24		
65	1.02	64	0.55	25	0.24		
82	0.95	56	0.55	15	0.24		
62	0.94	10	0.55	17	0.20		
11	0.90	97	0.53	75	0.20		
21	0.87	68	0.52	67	0.19		

19	0.86	46	0.47	36	0.19	
72	0.86	50	0.46	76	0.18	
34	0.83	20	0.45	38	0.18	
95	0.81	40	0.43	12	0.17	
78	0.76	42	0.43	53	0.17	

Source: Computed from UN Comtrade Database

It can be established that if, for a particular commodity, RCA for India and RCII for UAE are both  $> 1$ , it can be expected that RCII for that commodity in UAE 's imports from India will be  $> 1$ . If this is not the case, the reasons thereof need to be investigated, and appropriate policy measures taken. Actually it implies that the importers of UAE are not importing the particular commodity 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 UAE 's importers need to be adopted.

Table 4.4: RCII of UAE's imports from India in 2019 – ITC-HS chapter-wise

ITC-HS Chapter	RCII Between Countries	ITC-HS Chapter	RCII Between Countries	ITC-HS Chapter	RCII Between Countries	ITC-HS Chapter	RCII Between Countries
71	3.01	82	0.71	31	0.34	30	0.11
45	2.96	69	0.68	94	0.32	29	0.10
85	2.19	54	0.62	25	0.32	88	0.09
35	1.87	97	0.61	38	0.31	89	0.07
48	1.69	61	0.61	64	0.30	81	0.04
37	1.64	39	0.58	13	0.28	67	0.03
28	1.63	59	0.54	60	0.27	23	0.03
80	1.50	74	0.54	75	0.26	86	0.03
27	1.42	24	0.53	36	0.25	16	0.02
19	1.29	49	0.50	32	0.24	41	0.02
11	1.19	50	0.50	92	0.23	51	0.02
70	1.12	66	0.49	53	0.22	99	0.01
10	1.11	87	0.48	14	0.21	93	0.00
22	1.10	96	0.48	63	0.19	01	
34	1.06	68	0.46	91	0.19	02	
18	0.89	56	0.46	15	0.18	03	
33	0.87	62	0.45	57	0.17	04	
79	0.87	83	0.43	76	0.16	05	
72	0.84	58	0.43	90	0.16	06	
65	0.83	55	0.38	46	0.16	07	

17	0.81	47	0.37	26	0.15	08	
21	0.79	84	0.37	12	0.15	09	
73	0.78	95	0.37	52	0.14		
44	0.78	20	0.36	43	0.12		
78	0.77	40	0.36	42	0.12		

*Source: Computed from UN Comtrade Database*

Delving deeper in tables 4.3 and 4.4, we find that ten ITC-HS chapters have both RCA of Indian exports to UAE in 2019 and RCII of UAE 's imports from India in 2019 greater than 1. These chapters are:

- HS-71 Natural, cultured pearls; precious, semi-precious stones; precious metals, metals clad with precious metal, and articles thereof; imitation jewellery; coin
- HS-45 Cork and articles of cork
- HS-85 Electrical machinery and equipment and parts thereof; sound recorders and reproducers; television image and sound recorders and reproducers, parts and accessories of such articles
- HS-35 Albuminoidal substances; modified starches; glues; enzymes
- HS-48 Paper and paperboard; articles of paper pulp, of paper or paperboard
- HS-28 Inorganic chemicals; organic and inorganic compounds of precious metals; of rare earth metals, of radio-active elements and of isotopes
- HS-80 Tin; articles thereof
- HS-27 Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes

This was a sector-wise analysis, and the policies to be adopted need to address the sector at large. There may be, in a particular chapter, 6-digit commodities which may satisfy the conditions satisfied by the chapter as a whole, and there may many which do not. There may even be occasions wherein no 6-digit commodity of a particular chapter individually satisfies the conditions but the chapter as a whole does. This may be because RCA and RCII of some commodities in India's exports to UAE < 1 (which brings down the RCA and RCII of the chapter as a whole), but their RCAs in case of India's exports (to the whole world) or their RCII in case of UAE's imports (from the whole world) may also be < 1. In case of other commodities of the same chapter, both may be > 1. On the other hand, a chapter as a whole may not satisfy the conditions, but some 6-digit commodities included in it may.

So, ITC-HS 6-digit code-wise analysis is more relevant, because the greater granularity permits better focusing of policy measures. The list of chapters may not be consistent with the list of ITC-HS six-digit commodities, because of the reasons mentioned above. The analytical framework elaborated above, with chapters as the basis, was mainly for the purpose of elucidation of the methodology adopted, but also for giving a sector-wise status. But for policy formulation, the analysis with the highest possible granularity is the best option. Hence, it will be most expeditious to consider the ITC-HS six-digit commodities which emerge, as the candidates for the policies mentioned above, when the methodology set out above is employed at the 6-digit level. This list is given in Appendix B.

So much for product-specific policies. Market (i.e. destination) specific policies need to be taken, too. 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 UAE, say  $g < s$ .  $g$  can be  $< s$  only when, for some reason, UAE imports P, but not sufficiently from India. In such cases, market or destination-specific promotional policies will be needed. The same will be true when UAE's share in India's export of P falls below UAE'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 C shows the list of such commodities in case of India's exports to UAE.

For commodities appearing in both the lists – in Appendix B and Appendix C, both product-oriented and market-oriented promotional policies are required to be adopted.

## 5. Export Concentration

The standard measure of concentration of exports over a range of commodities is the Hirschman-Herfindahl Index (HHI), which is the sum of the squares of the shares of the commodities (in terms of value) in the export basket.<sup>7</sup> The index has been calculated over all ITC-HS six-digit commodities, the highest level of granularity allowed by comparable international data. The index is more meaningful the more granular the data.

In case of India's exports to UAE, table 5.1 shows that the value of the index, between 2015 and 2019, averages around 0.28. It may be noted that the index for India's exports to the world at 0.14 (average) is lower than it is for India's exports to UAE. A relatively higher level of concentration of exports means that India's export basket to UAE is less diverse than to the world and it may bring forth gains from specialization. However, a more concentrated export also indicates greater exposure to industry specific risks.

*Table 5.1: Hirschman-Herfindahl Index for India to the World and for India to UAE*

Year	India-UAE HHI	India-World HHI
2015	0.25	0.13
2016	0.26	0.13
2017	0.24	0.13
2018	0.33	0.15
2019	0.34	0.14

*Source: Computed from UN Comtrade Database*

<sup>7</sup> See Export Concentration Index in Appendix D.

## 6. Intra-Industry Trade

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 1.<sup>8</sup>

In the present case, the Grubel-Lloyd Index values (computed on exports from India to UAE and imports from UAE to India) in Table 6.1 show that, in 2019, in case of agricultural products and processed farm products, intra-industry trade between India and UAE is generally not very high, albeit with a few exceptions for ITC-HS chapters HS-08 (Fruit and nuts, edible; peel of citrus fruit or melons), HS-15 (Animal or vegetable fats and oils and their cleavage products; prepared animal fats; animal or vegetable waxes ) and HS-23(Food industries, residues and wastes thereof; prepared animal fodder), with IIT > 0.7.

*Table 6.1: Grubel-Lloyd Index for India and UAE in 2019 – Agricultural and Related Products (Chapters 01-24)*

<b>ITC-HS Chapter</b>	<b>Commodity Description</b>	<b>Grubel Lloyd Index</b>
HS-01	Animals; live	0.01
HS-02	Meat and edible meat offal	0.00
HS-03	Fish and crustaceans, molluscs and other aquatic invertebrates	0.00
HS-04	Dairy produce; birds' eggs; natural honey; edible products of animal origin, not elsewhere specified or included	0.00
HS-05	Animal originated products; not elsewhere specified or included	
HS-06	Trees and other plants, live; bulbs, roots and the like; cut flowers and ornamental foliage	0.07
HS-07	Vegetables and certain roots and tubers; edible	0.38
HS-08	Fruit and nuts, edible; peel of citrus fruit or melons	0.90
HS-09	Coffee, tea, mate and spices	0.19
HS-10	Cereals	0.00

<sup>8</sup> See Appendix D for the Index of Intra-Industry Trade.

HS-11	Products of the milling industry; malt, starches, inulin, wheat gluten	0.25
HS-12	Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit, industrial or medicinal plants; straw and fodder	0.35
HS-13	Lac; gums, resins and other vegetable saps and extracts	0.27
HS-14	Vegetable plaiting materials; vegetable products not elsewhere specified or included	
HS-15	Animal or vegetable fats and oils and their cleavage products; prepared animal fats; animal or vegetable waxes	0.82
HS-16	Meat, fish or crustaceans, molluscs or other aquatic invertebrates; preparations thereof	
HS-17	Sugars and sugar confectionery	0.06
HS-18	Cocoa and cocoa preparations	0.64
HS-19	Preparations of cereals, flour, starch or milk; pastrycooks' products	0.06
HS-20	Preparations of vegetables, fruit, nuts or other parts of plants	0.06
HS-21	Miscellaneous edible preparations	0.12
HS-22	Beverages, spirits and vinegar	0.30
HS-23	Food industries, residues and wastes thereof; prepared animal fodder	0.72
HS-24	Tobacco and manufactured tobacco substitutes	0.05

Source: Computed from UN Comtrade Database

For ores and minerals as is shown in table 6.2, IIT is very high (almost 1) for HS-26 (i.e. “Ores, slag and ash”).

Table 6.2: Grubel-Lloyd Index for India and UAE in 2019 – Mineral Products (Chapters 25-27)

ITC-HS Chapter	Commodity Description	Grubel Lloyd Index
HS-25	Salt; sulphur; earths, stone; plastering materials, lime and cement	0.14
HS-26	Ores, slag and ash	0.98
HS-27	Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes	0.57

Source: Computed from UN Comtrade Database



In chemicals and chemical-based industries shown in Table 6.3 below, IIT values range from 0.02 to 0.96). For HS-38 (Chemical products n.e.c.), intra-industry trade is extremely high (0.96).

*Table 6.3: Grubel-Lloyd Index for India and UAE in 2019 – Products of Chemical or Allied Industries (Chapters 28-40)*

<b>ITC-HS Chapter</b>	<b>Commodity Description</b>	<b>Grubel Lloyd Index</b>
HS-28	Inorganic chemicals; organic and inorganic compounds of precious metals; of rare earth metals, of radio-active elements and of isotopes	0.30
HS-29	Organic chemicals	0.59
HS-30	Pharmaceutical products	0.00
HS-31	Fertilizers	0.02
HS-32	Tanning or dyeing extracts; tannins and their derivatives; dyes, pigments and other colouring matter; paints, varnishes; putty, other mastics; inks	0.47
HS-33	Essential oils and resinoids; perfumery, cosmetic or toilet preparations	0.49
HS-34	Soap, organic surface-active agents; washing, lubricating, polishing or scouring preparations; artificial or prepared waxes, candles and similar articles, modelling pastes, dental waxes and dental preparations with a basis of plaster	0.30
HS-35	Albuminoidal substances; modified starches; glues; enzymes	0.25
HS-36	Explosives; pyrotechnic products; matches; pyrophoric alloys; certain combustible preparations	
HS-37	Photographic or cinematographic goods	0.46
HS-38	Chemical products n.e.c.	0.96
HS-39	Plastics and articles thereof	0.63
HS-40	Rubber and articles thereof	0.61

*Source: Computed from UN Comtrade Database*

Again, when it comes to chapters dealing with products of plant and animal parts (leather, wood, paper), as included in the groups shown in Table 6.4 below, the intra-industry trade is low except for Chapter-44(Wood and articles of wood; wood charcoal) which has a fairly high degree of intra-industry trade, with value 0.76.

Table 6.4: Grubel-Lloyd Index for India and UAE in 2019 – Leather, Wood and Paper (Chapters 41-49)

ITC-HS Chapter	Commodity Description	Grubel Lloyd Index
HS-41	Raw hides and skins (other than furskins) and leather	0.15
HS-42	Articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles of animal gut (other than silk-worm gut)	0.07
HS-43	Furskins and artificial fur; manufactures thereof	
HS-44	Wood and articles of wood; wood charcoal	0.76
HS-45	Cork and articles of cork	0.03
HS-46	Manufactures of straw, esparto or other plaiting materials; basketware and wickerwork	0.02
HS-47	Pulp of wood or other fibrous cellulosic material; recovered (waste and scrap) paper or paperboard	0.04
HS-48	Paper and paperboard; articles of paper pulp, of paper or paperboard	0.20
HS-49	Printed books, newspapers, pictures and other products of the printing industry; manuscripts, typescripts and plans	0.42

Source: Computed from UN Comtrade Database

The group comprising textiles and clothing, shown in Table 6.5, shows low index values too.

Table 6.5: Grubel-Lloyd Index for India and UAE in 2019 – Textiles, Textile Articles, Footwear and Headgear (Chapters 50-65)

ITC-HS Chapter	Commodity Description	Grubel Lloyd Index
HS-50	Silk	0.03
HS-51	Wool, fine or coarse animal hair; horsehair yarn and woven fabric	0.56
HS-52	Cotton	0.24
HS-53	Vegetable textile fibres; paper yarn and woven fabrics of paper yarn	0.00
HS-54	Man-made filaments; strip and the like of man-made textile materials	0.06
HS-55	Man-made staple fibres	0.07
HS-56	Wadding, felt and nonwovens, special yarns; twine, cordage, ropes and cables and articles thereof	0.11

HS-57	Carpets and other textile floor coverings	0.15
HS-58	Fabrics; special woven fabrics, tufted textile fabrics, lace, tapestries, trimmings, embroidery	0.02
HS-59	Textile fabrics; impregnated, coated, covered or laminated; textile articles of a kind suitable for industrial use	0.13
HS-60	Fabrics; knitted or crocheted	0.43
HS-61	Apparel and clothing accessories; knitted or crocheted	0.01
HS-62	Apparel and clothing accessories; not knitted or crocheted	0.01
HS-63	Textiles, made up articles; sets; worn clothing and worn textile articles; rags	0.31
HS-64	Footwear; gaiters and the like; parts of such articles	0.25
HS-65	Headgear and parts thereof	0.07

Source: Computed from UN Comtrade Database

For the assorted group in Table 6.6, in case of HS-71 ('Natural, cultured pearls; precious, semi-precious stones; precious metals, metals clad with precious metal, and articles thereof; imitation jewellery; coin'), intra-industry trade is very high (0.95).

Table 6.6: Grubel-Lloyd Index for India and UAE in 2019 – Assorted Group of Items (Chapters 66-71)

ITC-HS Chapter	Commodity Description	Grubel Lloyd Index
HS-66	Umbrellas, sun umbrellas, walking-sticks, seat sticks, whips, riding crops; and parts thereof	0.16
HS-67	Feathers and down, prepared; and articles made of feather or of down; artificial flowers; articles of human hair	0.03
HS-68	Stone, plaster, cement, asbestos, mica or similar materials; articles thereof	0.23
HS-69	Ceramic products	0.06
HS-70	Glass and glassware	0.30
HS-71	Natural, cultured pearls; precious, semi-precious stones; precious metals, metals clad with precious metal, and articles thereof; imitation jewellery; coin	0.95

Source: Computed from UN Comtrade Database

As regards metals and articles made thereof, there is incidence of high intra-industry trade ( $>0.7$ ) in chapters 72 ('Iron and steel'), 73 ('Iron or steel articles'), 78 ('Lead and articles thereof'), 79 ('Zinc and articles thereof') and 83 ('Metal; miscellaneous products of base metal'). Table 6.7 shows the index values for chapters 72 to 83.

*Table 6.7: Grubel-Lloyd Index for India and UAE in 2019 – Base Metals and Articles of Base Metals (Chapters 72-83)*

<b>ITC-HS Chapter</b>	<b>Commodity Description</b>	<b>Grubel Lloyd Index</b>
HS-72	Iron and steel	0.88
HS-73	Iron or steel articles	0.74
HS-74	Copper and articles thereof	0.14
HS-75	Nickel and articles thereof	0.19
HS-76	Aluminium and articles thereof	0.44
HS-78	Lead and articles thereof	0.72
HS-79	Zinc and articles thereof	0.94
HS-80	Tin; articles thereof	0.01
HS-81	Metals; n.e.c., cermets and articles thereof	0.45
HS-82	Tools, implements, cutlery, spoons and forks, of base metal; parts thereof, of base metal	0.38
HS-83	Metal; miscellaneous products of base metal	0.75

*Source: Computed from UN Comtrade Database*

The last group, half of which are high-end manufactures, show varying values of the Grubel-Lloyd Index. In particular, HS-88 ('Aircraft, spacecraft and parts thereof'), HS-89 ('Ships, boats and floating structures') and HS-97 ('Works of art; collectors' pieces and antiques') have high intra-industry trade (index value  $> 0.7$ ). Table 6.8 shows the index values for chapters 84 to 99.

*Table 6.8 : Grubel-Lloyd Index for India and UAE in 2019 – High-End Manufactured Products, Furniture, Sports Goods and Works of Art (Chapters 84-99)*

<b>ITC-HS Chapter</b>	<b>Commodity Description</b>	<b>Grubel Lloyd Index</b>
HS-84	Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof	0.69
HS-85	Electrical machinery and equipment and parts thereof; sound recorders and reproducers; television image and sound recorders and reproducers, parts and accessories of such articles	0.19

HS-86	Railway, tramway locomotives, rolling-stock and parts thereof; railway or tramway track fixtures and fittings and parts thereof; mechanical (including electro-mechanical) traffic signalling equipment of all kinds	0.21
HS-87	Vehicles; other than railway or tramway rolling stock, and parts and accessories thereof	0.10
HS-88	Aircraft, spacecraft and parts thereof	0.78
HS-89	Ships, boats and floating structures	0.71
HS-90	Optical, photographic, cinematographic, measuring, checking, medical or surgical instruments and apparatus; parts and accessories	0.60
HS-91	Clocks and watches and parts thereof	0.67
HS-92	Musical instruments; parts and accessories of such articles	0.00
HS-93	Arms and ammunition; parts and accessories thereof	
HS-94	Furniture; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings; lamps and lighting fittings, n.e.c.; illuminated signs, illuminated name-plates and the like; prefabricated buildings	0.39
HS-95	Toys, games and sports requisites; parts and accessories thereof	0.17
HS-96	Miscellaneous manufactured articles	0.28
HS-97	Works of art; collectors' pieces and antiques	0.98
HS-99	Commodities not specified according to kind	0.16

*Source: Computed from UN Comtrade Database*

## 7. Export Similarity

The similarity in the export baskets of two countries, i.e. similarities in the shares of different commodities in the total exports of two countries, is measured by the Export Similarity Index. It is calculated by taking the percentage shares of each commodity (here ITC-HS six digit level commodities have been taken) in both the countries, taking the minimum of the two, and then summing up these minima over all the commodities. The index values vary from 0 to 100, with higher values implying greater export similarity between the countries and thus greater export competition between the two countries.

Table 7.1 shows the values of this index for India and several other countries.

*Table 7.1: Export Similarity Index – India and a few countries*

	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
India-Russia	22.53	17.83	25.31	25.28	25.46
India-Singapore	29.80	24.01	28.04	30.80	30.94
India-South Korea	27.05	27.21	28.10	30.32	31.80
India-Thailand	31.46	31.04	0.00	30.30	30.48
India-China	26.77	27.52	26.97	28.06	30.16
India-USA	32.62	32.00	31.74	31.91	32.89
India-UK	30.99	31.94	31.44	31.00	32.89
India-Germany	29.86	29.61	29.88	30.61	32.11
India-Japan	23.03	23.54	23.87	23.62	24.43
India-New Zealand	15.74	14.66	13.88	13.38	17.11
India-Vietnam	22.97	0.00	0.00	21.79	22.31
India-Hongkong	18.49	17.60	16.44	15.91	17.69
India- UAE	23.83	23.56	0.00	24.65	27.23

*Source: Computed from UN Comtrade Database*

Table 7.2 below shows that UAE's Export Similarity Index values with other countries such as Singapore, South Korea, China, USA, UK, Germany and Japan.

*Table 7.2: Export Similarity Index – UAE and a few countries*

	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
UAE-Singapore	23.62	19.88	0.00	28.53	24.70
UAE -South Korea	16.22	15.49	0.00	17.16	19.95
UAE -China	14.79	14.47	0.00	22.50	25.35
UAE -USA	32.98	33.07	0.00	38.40	32.23
UAE -UK	25.35	25.58	0.00	34.65	31.85
UAE -Germany	22.52	22.68	0.00	24.95	23.53
UAE -Japan	19.87	20.06	0.00	22.72	18.79

*Source: Computed from UN Comtrade Database*

From the above table, the average ESI values are computed between UAE and the seven countries, are given as under:

UAE -USA	29.78
UAE -UK	27.67
UAE-Singapore	22.02
UAE -Germany	21.13
UAE -Japan	17.54

UAE -China	20.39
UAE -South Korea	16.86

ESI between UAE and USA is the highest among the seven countries, implying that these two countries are the closest competitors in the world market for exports in the group of seven countries.

## **VI Resources**

- Oracle Business Intelligence Application, DGCIS
- UN Comtrade Database
- Encyclopædia Britannica, <https://www.britannica.com/place/United-Arab-Emirates>
- 2018 ARTICLE IV CONSULTATION for United Arab Emirates—PRESS RELEASE; STAFF REPORT (IMF Country Report No. 19/35)
- World Trade Organization (WTO) Trade Policy Reviews: UAE
- Human Development Report 2020

## VII Appendix

### A. Data on Country Profile

Table A: Country Profile — United Arab Emirates

<b>Country Profile : United Arab Emirates</b>				
	<b>1990</b>	<b>2000</b>	<b>2010</b>	<b>2018</b>
<b>World view</b>				
Population, total (millions)	1.83	3.13	8.55	9.63
Population growth (annual %)	5.8	5.5	7.7	1.5
Surface area (sq. km) (thousands)	98.6	98.6	98.6	98.6
Population density (people per sq. km of land area)	25.7	44.1	120.4	135.6
Poverty headcount ratio at national poverty lines (% of population)	..	..	..	..
Poverty headcount ratio at \$1.90 a day (2011 PPP) (% of population)	..	..	0	0
GNI, Atlas method (current US\$) (billions)	..	98.42	285.54	399.41
GNI per capita, Atlas method (current US\$)	..	31,400	33,400	41,470
GNI, PPP (current international \$) (billions)	..	323.32	554.58	662.91
GNI per capita, PPP (current international \$)	..	1,03,160	64,860	68,830
<b>People</b>				
Income share held by lowest 20%	..	..	6.2	9.2
Life expectancy at birth, total (years)	72	74	76	78
Fertility rate, total (births per woman)	4.5	2.6	1.8	1.4
Adolescent fertility rate (births per 1,000 women ages 15-19)	55	26	22	6
Contraceptive prevalence, any methods (% of women ages 15-49)	..	..	..	..
Births attended by skilled health staff (% of total)	99	100	100	100
Mortality rate, under-5 (per 1,000 live births)	17	11	9	8
Prevalence of underweight, weight for age (% of children under 5)	..	..	..	..
Immunization, measles (% of children ages 12-23 months)	80	94	94	99



Primary completion rate, total (% of relevant age group)	91	80	94	104
School enrollment, primary (% gross)	107.3	90.4	99.9	108.4
School enrollment, secondary (% gross)	61	79	..	105
School enrollment, primary and secondary (gross), gender parity index (GPI)	1	1	..	1
Prevalence of HIV, total (% of population ages 15-49)	..	..	..	..
<b>Environment</b>				
Forest area (sq. km) (thousands)	2.5	3.1	3.2	3.2
Terrestrial and marine protected areas (% of total territorial area)	..	..	..	15
Annual freshwater withdrawals, total (% of internal resources)	1,076.40	1,500.00	1,798.40	1,708.00
Urban population growth (annual %)	5.6	6	8.1	1.8
Energy use (kg of oil equivalent per capita)	11,170	10,058	7,215	..
CO2 emissions (metric tons per capita)	28.44	35.92	18.55	22.04
Electric power consumption (kWh per capita)	8,501	12,314	10,610	..
<b>Economy</b>				
GDP (current US\$) (billions)	50.7	104.34	289.79	422.22
GDP growth (annual %)	18.3	10.9	1.6	1.2
Inflation, GDP deflator (annual %)	3.3	11.5	12.5	8.2
Agriculture, forestry, and fishing, value added (% of GDP)	1	2	1	1
Industry (including construction), value added (% of GDP)	59	49	53	47
Exports of goods and services (% of GDP)	..	49	82	93
Imports of goods and services (% of GDP)	..	41	62	67
Gross capital formation (% of GDP)	..	23	27	24
Revenue, excluding grants (% of GDP)	..	6.5	3.4	3.4
Net lending (+) / net borrowing (-) (% of GDP)	..	0.1	0.1	0.3
<b>States and markets</b>				
Time required to start a business (days)	..	19	15	4

Domestic credit provided by financial sector (% of GDP)	..	..	..	90.4
Tax revenue (% of GDP)	..	1.1	0.3	0.1
Military expenditure (% of GDP)	..	8.3	6	..
Mobile cellular subscriptions (per 100 people)	1.8	45.6	127.8	208.5
Individuals using the Internet (% of population)	0	23.6	68	98.5
High-technology exports (% of manufactured exports)	..	..	4	3
Statistical Capacity score (Overall average)	..	..	..	..
<b>Global links</b>				
Merchandise trade (% of GDP)	69	81	138	138
Net barter terms of trade index (2000 = 100)	..	100	158	165
External debt stocks, total (DOD, current US\$) (millions)	..	..	..	..
Total debt service (% of exports of goods, services and primary income)	..	..	..	..
Net migration (thousands)	368	1,190	270	200
Personal remittances, received (current US\$) (millions)	..	..	..	..
Foreign direct investment, net inflows (BoP, current US\$) (millions)	-116	-506	8,797	10,385
Net official development assistance received (current US\$) (millions)	3.5	..	..	..

Source: World Development Indicators database  
 Figures in blue refer to periods other than those specified.

*Data from database: World Development Indicators*  
*Last Updated: 03/19/2021*

## B. Commodities requiring product-specific export-promotion policies

Commodity Code (6-digit)	Commodity Code Description
100630	SEMI/WHOLLY MILED RICE W/N POLISHED/GLAZED
200811	GROUND NUTS , PRPD/PRSVD
210111	EXTRCTS ESSNCS AND CNCNTRTS OF COFFE

250300	SULPHUR OF ALL KNDS OTHR THN SUBLIMED SULPHUR PCPTD SULPHUR AND COLLOIDAL SULPHUR
283410	NITRITES
290542	PENTAERYTHRITOL
290713	OCTYLPHNL NONYLPHNL AND THR ISO-MERS,SALTS
291219	OTHR ACYCLIC ALDHYDS WTHOUT OXYGEN FNCTN
291570	PALMTC ACID,STEARIC ACID THR SLTS AND ESTRS
293190	OTHER ORGANO-INORGANIC COMPOUNDS INCL ORGANO ARSENIC COMPOUNDS
300450	OTHER MEDICAMENTS CONTAINING VITAMINS OR OTHER PRODUCTS OF HEADING 2936 :
320649	OTHR COLRNG MATR AND OTHR PRPTNS
330610	DENTRIFRICES
330741	AGARBATTI" AND OTHR ODORIFEROUS PRPNS WHICHOPERATE BY BURNI
340600	CANDLES TAPERS AND THE LIKE
390120	POLYETHYLENE HVNG A SPCFC GRVTY 0.94 /MORE
401039	OTHR TRANSMISSION BLTS/BELTING OF VULCANISED RUBBER
420211	TRUNKS,SUIT-CASES VANITY-CASES SCHOOL SACHELS AND SMLR CONTNRS WITH OTR SRFCE OF LTHR/COMPSTN LTHR/PATENT LEATHER
420221	HANDBAGS WITH OUTER SURFACE OF LEATHER OF COMPOSITION LEATHER/OF PATENT LEATHER W/N WTH SHOULDER STRAP-INCL THOS WITHOUT
420222	HANDBAGS WITH OUTER SURFACE OF SHEETING OF PLASTIC/OF TEXTILE MATERIALS W/N WITH SHOULDER STRAP-INCL THOSE WITHOUT HA
442090	WOOD MARQUETRY AND INLAID WOOD;CAS-KETSANDCASESFOR CULTRY AND OTHR SIMILAR ARTICLES OF WOOD
460199	OTHR PLAITING MATERIALS (EXCL VEG MATERLS)
480255	OPTHR PAPR AND PAPRBORD NT CTNG FBRS OB-TND BY MCHNCL PRCSS/OF WHCH <=10% BY WT OF TOTAL FBR CNTNT,WGHNG GO G/M2 TO 150
520420	COTTON SWNG THREAD PUT UP FOR RETAIL SALE
540262	OTHR YARN OF POLYSTRS,MULTPL OR CABLD
540754	WOVN FABRCS,PRINTED,CNTNG BY WT>=85% TEX-TURED POLYESTER FILAMENTS

540782	WOVN FBRC S DYD CNTNG<85% BY WT OF SYNTHTC FILMNTS MIXED MAINLY OR SOLELY WTH COTTON
551599	OTHER SYNTHETIC MIXD WOVEN FABRICS
560749	OTHR CORDGE ETC OF POLYETHLN/POLYPROPYLN
560900	ARTCLS OF YRN STRP/THE LKE OF HDNG NO. 5404/5405 TWINE CORDGE-ROP/CBLS N.E.S.
570110	CARPETS AND OTHER TEXTILE FLOOR COVERINGS OF WOOL OR FINE ANIMAL HAIR, KNOTTED
570231	OTHR CRPTS AND FLR CVRNGS OF WOOL/FINE ANML HAIR OF PILE CNSTRCTN,NOT MADE UP
570232	CRPTS AND TXTL FLR CVRNGS,WVN,OF MANMADE TXTL MATRLS,OF PILE CNSTRCTN,NOT MADE UP
570241	OTHR CRPTS AND FLOOR CVRNGS OF WOOL/FINE ANIMAL HAIR OF PILE CNSTRCTN,MADE UP
570292	CRPTS AND OTHR TXTL FLR CVRNGS OF MAN-MADE TXTL MATRLS,NT OF PILE CON-STRCTN,MADE UP
570310	CARPETS AND OTHER TEXTILE FLOOR COVERINGS OF WOOL/FINE ANIMAL HAIR TUFTD,W/N MADE UP
570330	CARPETS AND OTHR TEXTILE FLOOR COVERINGS OF OTHR MN-MDE TXTL MATRL TUFTD,W/N MDE-UP
580137	WARP PILE FABRICS OF MANMADE FIBRES
581099	EMBRDRY OF OTHR TXTL MATRLS
610442	DRESSES OF COTTON
610449	DRESSES OF OTHER TEXTILE MATERIALS
610719	UNDRPNTS AND BRIEFS OF OTHR TEXTILE MATRLS
610721	NIGHTSHIRTS AND PYJAMAS OF COTTON
611420	OTHER GARMENTS OF COTTON
611490	OTHR GRMNTS OF OTHR TEXTILE MATERIALS
611529	OF OTHER TEXTILE MATERIALS:
620332	JACKETS AND BLAZERS OF COTTON
620442	DRESSES OF COTTON
620443	DRESSES OF SYNTHETIC FIBRES
620449	DRESSES OF OTHER TEXTILE MATERIALS
620452	SKIRTS AND DIVIDED SKIRTS OF COTTON
620453	SKIRTS AND DIVIDED SKIRTS OF SYNTHETIC FIBRS
620459	SKRTS AND DVDED SKRTS OF OTHER TXTL MAT-RALS
620520	MEN'S OR BOYS' SHIRTS OF COTTON
620799	OTHER SMLR GARMENTS OF OTHER TXTL MATRLS

620920	BABIES' GRMNTS AND CLOTHNG ACCSSRS OF COT- TON
621139	OTHR GRMNTS OF OTHR TXTL MTRLS FR MNS/BOYS
621142	OTHR GRMNTS OF COTTON FR WOMEN'S OR GIRLS'
621143	OTHER GARMENTS OF MAN-MADE FIBRES
621149	OTHER GARMENTS OF OTHER TEXTILE MATERIALS
630130	BLANKETS(OTHER THAN ELECTRIC BLANKETS) AND TRAVELLING RUGS,OF COTTON
630190	OTHER BLANKETS AND TRAVELLING RUGS :
630251	OTHER TABLE LINEN OF COTTON
630260	TOILET LINEN AND KITCHEN LINEN,OF TERRY TOWELLING/SIMILAR TERRY FABRICS,OF COTN
630291	OTHER LINEN OF COTTON
630492	OTHR FRNSHG ARTCLS OF COTN,NT KNTD/CRCHTD
630590	SACKS AND BAGS OF OTHER TEXTILE MATERIALS
630720	LIFE-JACKETS AND LIFEBELTS
680223	SMPLY CUT/SWN GRANITE WTH A FLT/EVN SURFCE
680229	OTR SMPLY CUT/SWN STNE WTH A FLT EVN SRFCE
681381	BRAKE LININGS AND PADS
690220	REFRCTORY BRCKS BLOCKS ETC CONTNG BY WT> 50% OF ALUMINA,SILICA/OF MIXTURE OF THESE
690721	
690722	
690723	
701610	GLSS CUBES AND OTHR GLSS SMLWARES W/N ON BCKNG FR MOSAICS/SMLR PURPS
701940	WOVEN FABRICS OF ROVINGS
710239	OTHERS :
710391	OTHERWISE WRKD RUBIES SAPPHIRES AND EMER- ALS
720241	FERRO-CHROMIUM CARBON CONTNG>4% BY WT
720291	FERROTITANIUM AND FERRO-SILICO-TITAMIUM
720711	PRDCTS CONTNG BY WT<0.25% CRBN,OF RCTNGLR (INCL SQR)CRS-SCTN;WDTH<TWICE THE THCKNS
721699	OTHER :
722300	WIRE OF STAINLESS STEEL
730511	LINE PIPE USED FOR OIL OR GAS PIPELINES LONGI- TUDINALLY SUBMERGED ARC WELDED HAVING EXTERNAL DIAMETER >406.4MM
730690	OTHER TUBES,PIPES ETC.OF IRON OR STEEL

730711	CAST FITTINGS OF NON-MALLEABLE CAST IRON
730791	FLANGES OF OTHER IRON OR STEEL
730792	THRDED ELBWS,BNDS AND SLEVS OF OTHR IRN/STL
732112	COOKNG APLNCS AND PLATE WARMRS FOR LQD FUEL
732394	OTHER HOUSEHOLD ARTICLES OF IRON (OTHER THAN CAST IRON)OR STEEL,ENAMELLED
821599	OTHR ARTICLES NOT IN SETS
830241	OTHR MOUNTINGS FITTINGS AND SMLR ARTCLS SUITABLE FOR BUILDINGS
830621	STATUETS AND OTHR ORNMNTS PLTD WTH PRCS MTL
841280	OTHER ENGINES AND MOTORS NES
842519	OTHER PULLEY TACKLE AND HOIST
842630	PORTAL/PEDESTAL JIB CRANES
843049	OTHR BORNG / SINKNG MACHINRY NT SELF-PRPLD
845522	ROLLING MILLS-COLD
846890	PARTS OF ARTICLES OF HEADING 8468
847920	MCHNRY FR THE EXTRACTIONS/PRPRTN OF ANML/ FIXED VEGETABLE FATS/OILS
848190	PARTS OF THE ITEMS UNDR HDG 8481
850211	GENRTRNG SETS WTH CMPRSSN IGNTN INTRNL CMBSTN PSTN ENGNS(DIESL/SEMI-DIESL ENGNS) OF AN OUTPUT NT EXCDNG 75 KVA
850212	GENRTRNG SETS WTH CMPRSSN IGNTN INTRNL CMBSTN PSTN ENGNS(DSL/SEMI-DSL ENGNS)OF AN OUTPUT >75 KVA BUT <=375 KVA
853210	FXD CPCTRS DSGND FR USE IN 50/60 HZ CRCTS HVNG A REACTIVE PWR HNDLNG CAPACITY OF NT LESS THN 0.5 KVAR(PWR CAPACITORS)
853540	LIGHTNING ARRESTERS,VOLTAGE LIMITERS AND SURGE SUPPRESSORS
853620	AUTMTC CIRCUIT BREAKERS
853810	BORDS,PANELS,CONSOLES ETC.FR THE GOODS OF HDG NO.8537 NT EQPPD WTH THR APPRTS
854460	OTHER ELECTRIC CONDUCTORS, FOR A VOLTAGE EXCEEDING 1000 V
854511	ELECTRODES OF A KIND USED FOR FURNACES
910599	OTHER CLOCKS NES
940360	OTHER WOODEN FURNITURE

940490	OTHR MATRESS SUPORT AND ARTCLS OF BEDNG ETC
940550	NON-ELECTRCLS LAMPS AND LIGHTING FITTINGS
960910	PNCL AND CRYNS WTH LEADS ENCLSD IN RGD SHTH
961400	SMOKING PIPES (INCLUDING PIPE BOWLS) AND CI-GAR OR CIGARETTE HOLDERS AND PARTS THEREOF

### C. Commodities requiring market-specific export-promotion policies

Commodity Code (6-digit)	Commodity Code Description
100821	MILLET : SEED
110423	HULLED,PEARLED,SLICD/KIBBLD MAIZE (CORN)
120241	GROUND-NUT, NOT ROASTED OR OTHERWISE COOKED, WHETHER OR NOT SHELLLED OR BROKEN-IN SHELL
170114	OTHER CANE SUGAR:
250300	SULPHUR OF ALL KNDS OTHR THN SUBLIMED SULPHUR PCPTD SULPHUR AND COLLOIDAL SULPHUR
251400	SLATE W/N ROUGHLY TRMMD/MERELY CUT BY SAWING/OTHRWSE INTO BLKS/SLBS OF A RCT-NGLR AND SQ SHAPE
260112	IRON ORE AND CONCENTRATES AGGLOMERATED
262190	ASH AND RESIDUES FROM INCINERATION OF OTHERTHAN MUNICIPAL WASTE
270810	PITCH
282090	OTHER MANGANESE OXIDES
282300	TITANIUM OXIDES
290514	OTHER BUTANOLS :
290542	PENTAERYTHRITOL
290629	OTHER AROMATIC ALCOHOL
290713	OCTYLPHNL NONYLPHNL AND THR ISOMERS,SALTS
290899	OTHER
290949	OTHR ETHR-ALCHLS AND THR HALGNTD SLPHNTD NITRATED OR NITROSATED DERIVATIVES

291219	OTHR ACYCLIC ALDHYDS WTHOUT OXYGEN FNCTN
291513	ESTERS OF FORMIC ACID
291560	BUTYRIC ACDS, VALERIC ACDS THR SLTS AND ESTRS
291816	GLUCONIC ACID ITS SALTS AND ESTERS
292029	
292211	MONOETHANOLAMINE AND ITS SALTS
292217	
292519	OTHR IMIDES AND THR DRVTVS SLTS THEREOF
300450	OTHER MEDICAMENTS CONTAINING VITAMINS OR OTHER PRODUCTS OF HEADING 2936 :
340600	CANDLES TAPERS AND THE LIKE
360200	PRPD EXPLOSIVES OTHR THN PROPELLENT PWDRS
381231	
381511	SUPPRTD CATALYSTS WTH NICKEL/NICKEL CMPNDS
390110	POLYETHYLENE HVNG A SPFC GRVTY BELOW 0.94
390120	POLYETHYLENE HVNG A SPCFC GRVTY 0.94 /MORE
420221	HANDBAGS WITH OUTER SURFACE OF LEATHER OF COMPOSITION LEATHER/OF PATENT LEATHER W/N WTH SHOULDER STRAP-INCL THOS WITHOUT
440290	OTHER :
510220	COARSE ANIMAL HAIR
520943	OTHER FABRICS OF 3-THREAD OR 4-THREAD TWILL, INCLUDING CROSS TWILL :
521019	OTHER MIXD COTN FABRICS, UNBLEACHED WEGHNG NOT MORE THAN 200 GM PER SQM
521031	DYED PLAIN WEAVE MXD COTN FABRICS WEIGHING NOT MORE THN 200 GM PER SQM
521211	OTHR UNBLCHD WOVN FABRICS OF COTTON WEIGHING NOT MORE THAN 200 G/M2
540754	WOVN FABRCS, PRINTED, CNTNG BY WT >=85% TEXTURED POLYESTER FILAMENTS
540784	WOVN FBRCS, PRNTD, CONTAINING <85% BY WT OF SYNTHTC FILAMNTS, MIXD MANLY/SOLY WTH COTON



550330	STAPLE FIBRS OF ACRLC/MODACRLC NT CRD/CMBD
551512	FBRCs OF POLYESTR STPL FABRS MXD MAINLY/ SOLELY WTH MAN-MADE FILAMENTS
570231	OTHR CRPTS AND FLR CVRNGS OF WOOL/FINE ANML HAIR OF PILE CNSTRCTN,NOT MADE UP
570232	CRPTS AND TXTL FLR CVRNGS,WVN,OF MANMADE TXTL MATRLS,OF PILE CNSTRCTN,NOT MADE UP
570241	OTHR CRPTS AND FLOOR CVRNGS OF WOOL/FINE ANIMAL HAIR OF PILE CNSTRCTN,MADE UP
570249	CRPTS AND TXTL FLR CVRNGS,WVN,OF OTHR TXTL MATRLS,OF PILE CNSTRCTN,MADE-UP
581091	OTHER EMBROIDERY OF COTTON
590800	TXTL WICKS,WOVEN,PLAITED/KNITTED,FOR LAMPSTOVES,LIGHERS,CANDLES ETC,INCANDESCENT GAS MANTLES ETC,W/N IMPREGNATED
630130	BLANKETS(OTHER THAN ELECTRIC BLANKETS) AND TRAVELLING RUGS,OF COTTON
630229	PRINTED BED LINEN OF OTHR TXTL MATRLS
630251	OTHER TABLE LINEN OF COTTON
630291	OTHER LINEN OF COTTON
630590	SACKS AND BAGS OF OTHER TEXTILE MATERIALS
680221	SIMPLY CUT/SAWN MARBLE TRAVERTINE AND ALABASTER WITH A FLAT OR EVEN SURFACE
680229	OTR SMPLY CUT/SWN STNE WTH A FLT EVN SRFCE
681292	PAPER, MILLBOARD AND FELT:
681381	BRAKE LININGS AND PADS
701940	WOVEN FABRICS OF ROVINGS
710391	OTHERWISE WRKD RUBIES SAPPHIRES AND EMERALDS
710399	OTHERWISE WRKD OTHR PRCS AND SEMI PRCS STONE
720241	FERRO-CHROMIUM CARBON CONTNG>4% BY WT
721914	HT-RLLD PRDCTS IN COILS OF THCKNS<3 MM
721923	HT-RLLD PRDCTS NT IN COILS OF THCKNS OF >=3MM BUT <4.75 MM
730422	DRILL PIPE OF STAINLESS STEEL

730449	OTHR TUBE,PIPE AND HOLO PROFILE OF CIRCULAR CROSS-SECTION OF OTHER STAINLESS STEEL
730511	LINE PIPE USED FOR OIL OR GAS PIPELINES LONGITUDINALLY SUBMERGED ARC WELDED HAVING EXTERNAL DIAMETER >406.4MM
730791	FLANGES OF OTHER IRON OR STEEL
740500	MASTER ALLOYS OF COPPER
820520	HAMMERS AND SLEDGE HAMMERS
820713	ROCK DRILLING OR EARTH BORING TOOLS WITH WORKING PART OF CERMETS
820719	OTHER, INCLUDING PARTS
840211	WATER TUBE BOILERS WITH A STEAM PRODUCTION >45T/HR
840290	PARTS OF STEAM/VAPOR GENERATING BOILERS
840420	CONDENSERS FOR STEAM/OTHER VAPOR POWER UNITS
840690	PARTS OF TURBINES
840710	AIR-CRAFT ENGINES
841112	TURBO-JETS OF A THRUST >25 KN
841181	OTHER GAS TURBINES OF POWER ≤5000 KW
841280	OTHER ENGINES AND MOTORS
841382	LIQUID ELEVATORS
841440	AIR COMPRESSORS MOUNTED ON WHEELED CHASSIS FOR TRAILING
842630	PORTAL/PEDESTAL JIB CRANES
845230	SEWING MACHINE NEEDLES
845510	TUBE MILLS
845522	ROLLING MILLS-COLD
846190	OTHER MACHINE TOOLS OF HDG NO 8461
847751	MACHINERY FOR MOULDING/RETREADING PNEUMATIC TYPES OR FOR MOULDING/OTHERWISE FORMING INNER TUBES
847920	MACHINERY FOR THE EXTRACTIONS/PREPARATION OF ANIMAL/FIXED VEGETABLE FATS/OILS
850161	AC GENERATORS (ALTERNATORS) OF AN OUTPUT NOT EXCEEDING 75KVA
850423	LIQUID DIELECTRIC TRANSFORMERS HAVING A POWER HANDLING CAPACITY EXCEEDING 10000 KVA
852873	OTHER, BLACK AND WHITE OR OTHER MONOCHROME:
853540	LIGHTNING ARRESTERS, VOLTAGE LIMITERS AND SURGE SUPPRESSORS
890690	OTHER UNDER HDG NO 8906

910990	OTHER CLOCK MOVEMENTS
930599	PRTS OF HEADING 9302 AND 9304
940389	OTHER

## D. Trade Indicators

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:

$$TCI = 1 - \sum ( |m_{ik} - x_{ij}| / 2 ), \text{ where}$$

$m_{ik}$  = share of commodity  $i$  in the imports of market  $k$

$x_{ij}$  = 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,  $m_{ik}$  and  $x_{ij}$  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).

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

where  $x_{ij}$  = country  $i$ 's exports to country  $j$

$X_{it}$  = country  $i$ 's exports to the world

$x_{wj}$  = world exports to country  $j$

$X_{wt}$  = 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.

$$XSI = \sum [ \min (X_{ij}, X_{ik}) * 100 ]$$

where  $X_{ij}$  = share of commodity  $i$  in exports of country  $j$

$X_{ik}$  = share of commodity  $i$  in exports of country  $k$

XSI can vary between 0 and 100. It will be seen that when  $X_{ij} = X_{ik}$  for all  $i$ 's,  $XSI = 100$ , which means complete export similarity between countries  $j$  and  $k$ . As  $X_{ij}$  and  $X_{ik}$  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.

$$HI = \sqrt{[\sum Sq(x_i/X_t)]}$$

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).

$$IIT_{jk} = 1 - [\sum |X_{ijk} - M_{ijk}| / (X_{ijk} + M_{ijk})]$$

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).

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