

# RUSSIA

## Country profile and trade aspects

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# I Overview

Russia or the Russian Federation, is a transcontinental country, with more than one-eighth of the Earth's inhabited land area, having eleven time zones. Moscow is the capital of Russia and the largest city, while Saint Petersburg is the second-largest city. Russian Federation is the largest country in the world, the ninth-most populous country, as well as the most populous country in Europe.

Once the republic of the Union of Soviet Socialist Republics (U.S.S.R. or Soviet Union), Russia became an independent country after the dissolution of the Soviet Union in December 1991. The Russian republic was established immediately after the Russian Revolution of 1917 and became a union republic in 1922. During the post-World War II era, Russia was a central player in international affairs, locked in a Cold War struggle with the United States. In 1991, following the dissolution of the Soviet Union, Russia joined with several other former Soviet republics to form a loose coalition, the Commonwealth of Independent States (CIS). In the aftermath of the constitutional crisis of 1993, a new constitution was adopted, and Russia has since been governed as a federal semi-presidential republic. Although the demise of Soviet-style communism and the subsequent collapse of the Soviet Union brought profound political and economic changes, including the beginnings of the formation of a large middle class, for much of the post-communist era Russians had to endure a generally weak economy, high inflation, and a complex of social ills that served to lower life expectancy significantly. Despite such profound problems, Russia showed promise of achieving its potential as a world power once again.

Russia is described as a potential superpower; with the world's second-most powerful military, and the fourth-highest military expenditure. As a recognised nuclear-weapon state, the country possesses the world's largest stockpile of nuclear weapons. Its economy ranks as the eleventh-largest in the world by nominal GDP and the sixth-largest by PPP. It is ranked very high in the Human Development Index, with a universal healthcare system and free university education. Russia is a permanent member of the United Nations Security Council, a member of the G20, the SCO, the Council of Europe, the APEC, the OSCE, the IIB and the WTO, as well as the leading member of the CIS, the CSTO, and the EAEU. It also hosts the ninth-greatest number of UNESCO World Heritage Sites.

Russian Federation ranks 52<sup>nd</sup> in the human development index<sup>1</sup> with Life expectancy at birth (years) at 72.6, Expected years of schooling (years) at 15, Gross national income (GNI) per capita (PPP \$) at 26,157.

The GDP (real) growth rate of the Russian economy was 2.3% in 2018 with inflation rate of 2.9% and unemployment rate of 4.8%. Furthermore, it is the 64<sup>th</sup> most complex economy according to the Economic Complexity Index<sup>2</sup>. A detailed data outlining Russia's country profile is shown in Table A in Appendix A.

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1 As per the Human Development Report 2020.

2 Sourced from Harvard's Atlas of Economic Complexity

## II Economic History

The Russian republic, being huge in size with bountiful natural resources, played a leading role in the economy of the Soviet Union. During the first decades of the Soviet regime, the natural resources made possible great economic advances, with the rapid development of mining, metallurgy, and heavy engineering, the expansion of the railway network, and a massive increase in the energy supply. In the 1960s, a second phase of Soviet industrial development began to exert a particularly strong effect on the Russian republic. In addition to further growth in established industries—especially in the production of oil, gas, and electricity and in the chemical industries—there was a marked diversification in industrial output, including a limited expansion in consumer goods. In the years before the dissolution of the Soviet Union, however, the economy of Russia and of the entire country was in a state of decline, and official statistics masked industrial inefficiencies.

After the collapse of the Soviet Union in 1991, the Russian government implemented a series of radical reforms designed to transform the economy from one that was centrally planned and controlled to one based on capitalist principles. The reforms included establishing privately owned industrial and commercial ventures (using both foreign and Russian investment) and privatizing state-owned enterprises. A commodity- and stock-exchange system also was established. The privatization process was however slow, and many firms—particularly in the heavy industries—remained under state ownership. In addition, there were issues regarding the buying and selling of land. Though full private ownership of land is provided for in the 1993 constitution, the practice has not yet been implemented. As a result of delays in implementing structural reforms, the conversion to market-based agriculture was slow, as many clung to the old, familiar collective system.

The reforms beginning in the 1990s caused hardships for Russian citizens; in the decade after the dissolution of the Soviet Union, the Russian economy contracted by more than two-fifths. The monetary system was in disarray: the removal of price controls caused a huge escalation in inflation and prices; the value of the ruble, the country's currency, plummeted; and real incomes fell dramatically. Conditions began to improve by the mid-1990s, but the recovery was interrupted in 1998 by a severe financial crisis, which caused the government to sharply devalue the ruble. Numerous banks became insolvent, and millions of citizens lost their life savings. Gradually, corrective measures were initiated such as the licensing of private banks and crack down on tax evasion. For business growth, taxes on medium and small enterprises were moderated, and the government began to offer incentives for reinvesting profits into the domestic economy. By the early 21st century, the measures had begun to have a positive effect on the Russian economy, which showed signs of recovery and stable growth. Steady earnings from oil exports permitted investments in factories, and the devalued currency made Russian goods more competitive on the international market.

In the post-Soviet years, foreign direct investment was encouraged, but it was constrained by unfavourable conditions, including state intervention in industry, corruption, and weakness in the rule of law. An upsurge in violence by organized crime syndicates contributed to hampering Western investment, and though the activity of such groups was curtailed in the early 21st century, it still presented severe obstacles to both Western and Russian businesses. Investment by non-Russian companies was also discouraged by moves taken by the Russian government to increase state ownership in various

industries, including oil and gas, aviation, and automobile manufacturing. Russia had been subjected to serious long-term environmental degradation during the Soviet period, such as the Chernobyl accident at a nuclear power plant in Ukraine in 1986, widespread industrial pollution, and the drastic reduction in the volume of the Aral Sea as a result of inflow diversions.

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

As per IMF Executive Board's 2019 Article IV Consultation with the Russian Federation, Russia's economy continued to show moderate growth, under sound macroeconomic policies but with structural constraints and the effects of sanctions. Output grew by 2.3 percent in 2018, driven by exports and consumption, which was supported by growth in real wages and higher labour demand. Investment registered a moderate increase compared to the previous year. After reaching historical lows earlier in 2018, inflation picked up in the second half of the year. One off factors (such as ruble depreciation as well as food and fuel price increases) rather than demand pressures were the major drivers of the increase. Growth, projected at 1.2 percent in 2019, reflects a weak first quarter estimate, lower oil prices and the impact of the higher VAT rate on private consumption. At the same time, GDP growth should be supported by an increase in public sector spending in the context of the national projects announced in 2018. Inflation is expected to hover around the 4 percent target in 2020. Public infrastructure spending under the national projects together with increase labor supply due to pension reform could have a positive effect on the growth rate of potential output. However, absent deeper structural reforms, long-run growth is projected to settle around 1.8 percent.

### **IV Trade Policy**

The country is fairly open to foreign trade, which accounts for 49% of GDP (World Bank, 2019), despite strict laws and policies. Russia became a member of the WTO in 2012, is a member of the Commonwealth of Independent States which have established a free trade area, and is a member of the Eurasian Customs Union. Russia and Ukraine have abolished mutual trade preferences. The Eurasian Customs Union has signed an agreement with Vietnam and is negotiating free trade agreements with, for example, Iran, India, Egypt, Singapore and Serbia. Russia is the 14th exporter and 21st importer of goods in the world (WTO, 2019). It mainly exports hydrocarbons (more than 50% of total exports), solid fuels, wheat and meslin, iron and steel, precious metals, precious stones and wood, and mainly imports machinery, pharmaceuticals, electronics, electrical products, vehicles and plastics. In 2020, due to the COVID-19 pandemic, the volume of exports of goods and services dropped by -8.8% compared to 2019, while the volume of imports decreased by -12.6% (IMF). According to IMF forecast, exports should rebound in 2021 (1.5%) and 2022 (2.7%), but slower than imports, expected to increase by 4.3% in 2021 and 3.5% in 2022.

Russia's main customers are China (13.4% of exports), the Netherlands (10.5%), Germany (6.6%), Belarus (5.1%) and Turkey (5%). Its main suppliers are China (21.9% of imports), Germany (10.2%), Belarus (5.5%), the United States (5.4%) and Italy (4.4%). Since the conflict in Ukraine and the economic sanctions imposed by Western countries, the Kremlin has imposed an embargo on European and American agricultural products and has reconfigured its trade relations.

The country has recorded significant and regular trade surpluses since 1998, mainly due to the richness of its natural resources, notably hydrocarbons (crude oil and natural gas in particular). The trade surplus makes up easily for the deficit in services and income. After declining due to tensions with Europe and the United States over the Ukrainian crisis and falling commodity prices, the trade surplus has increased due to higher commodity prices. However, the surplus decreased in 2019, since exports decreased and imports increased. According to the latest WTO data, Russia exported USD 419.8 billion worth of goods in 2019, and imported USD 254.6 billion worth, posting a surplus of USD 164.3 billion. The country exported 61.7 billion USD of services and imported 97.5 billion USD. According to preliminary data from the Russian central bank, the trade surplus shrank to USD 81.4 billion during the period from January to November 2020 (a decrease compared to USD 150 billion during the same period in 2019), amid constrained domestic oil output and depressed global crude prices. Despite the efforts made since the imposition of sanctions, the substitution of domestic products for imports has hardly been successful, except in the food industry.

The Russian Federation has been a member of WTO since 22 August 2012. The following Regional Trade Agreements (RTAs) are in force for the time being:

- Common Economic Zone (CEZ)
- Eurasian Economic Union (EAEU)
- Eurasian Economic Union (EAEU) - Iran
- Eurasian Economic Union (EAEU) - Viet Nam
- Georgia - Russian Federation
- Russian Federation - Azerbaijan
- Russian Federation - Belarus - Kazakhstan
- Russian Federation - Serbia
- Russian Federation - Turkmenistan
- Russian Federation - Uzbekistan
- Treaty on a Free Trade Area between members of the Commonwealth of Independent States (CIS)

#### Accessions

- Eurasian Economic Union (EAEU) - Accession of Armenia
- Eurasian Economic Union (EAEU) - Accession of the Kyrgyz Republic

RTAs for which an early announcement has been made:

- EFTA - Russian Federation / Belarus / Kazakhstan
- Russian Federation - New Zealand

## V Trade Analysis

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

### 1. Russia's Imports and Exports

Tables 1.1 to 1.4 show the list of Russia's top 20 source countries and destination countries for merchandise trade. From tables 1.1 and 1.2, it is manifest that China, Germany and USA are the top 3 countries accounting for 37.5% in Russia's imports of merchandise in 2019. India accounts for 1.59% in Russia's goods' imports in 2019, with an average hovering around 1.32% from 2015 to 2019.

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

Partner Country	2015	2016	2017	2018	2019	Grand Total
World	182.7819648	207.441	259.967	240.226	247.161	1137.576248
China	35.19926395	46.3322	56.9504	52.2176	54.1422	244.8417027
Germany	18.99157589	22.6849	28.4411	25.511	25.1104	120.7389603
USA	11.48969834	12.1346	14.283	12.6908	13.429	64.02714429
Belarus	7.988798958	10.2153	13.316	12.9064	13.6632	58.0897993
Italy	7.928217385	8.93551	11.6764	10.5804	10.9082	50.0287413
France	5.563160137	9.25796	10.3868	9.56162	8.59158	43.36116919
Japan	6.818556738	7.6347	9.01202	8.82194	8.96053	41.24775216
Rep. of Korea	4.532320186	6.21933	8.66015	7.00917	8.00242	34.42338978
Ukraine	5.642800662	4.09595	5.22624	5.46393	4.84532	25.27424831
Kazakhstan	4.275012978	3.71063	5.09356	5.29592	5.71013	24.08525812
Poland	3.839509075	4.45311	5.53284	5.14159	5.07882	24.04586663
United Kingdom	3.700077703	3.87378	4.5453	4.03721	4.03707	20.19344115
Turkey	4.068851727	2.3443	3.66554	4.22784	4.97875	19.28528026
Netherlands	2.926585975	3.44779	4.53241	3.69342	3.97785	18.57805165
Czechia	2.679134129	3.31505	4.19621	3.77532	3.69926	17.66497722
Finland	2.410599634	2.74827	4.22203	3.38228	3.48494	16.24811216
Spain	2.73826265	2.64824	3.43549	3.39751	3.32063	15.5401303
Viet Nam	2.055373843	2.51694	3.43238	3.62419	3.78326	15.41215355
India	2.263052815	2.53196	3.09414	3.225	3.92227	15.03642449
Others	47.67111205	48.3398	60.2647	55.6626	57.5155	269.453645
Total	365.5639296	414.881	519.933	480.452	494.323	2275.152496

Source: UN Comtrade database

*Table 1.2: Shares of countries in Russia's Imports of Merchandise*

Partner Country	2015	2016	2017	2018	2019	Share
China	19.26%	22.34%	21.91%	21.74%	21.91%	21.52%
Germany	10.39%	10.94%	10.94%	10.62%	10.16%	10.61%
USA	6.29%	5.85%	5.49%	5.28%	5.43%	5.63%

Belarus	4.37%	4.92%	5.12%	5.37%	5.53%	5.11%
Italy	4.34%	4.31%	4.49%	4.40%	4.41%	4.40%
France	3.04%	4.46%	4.00%	3.98%	3.48%	3.81%
Japan	3.73%	3.68%	3.47%	3.67%	3.63%	3.63%
Rep. of Korea	2.48%	3.00%	3.33%	2.92%	3.24%	3.03%
Ukraine	3.09%	1.97%	2.01%	2.27%	1.96%	2.22%
Kazakhstan	2.34%	1.79%	1.96%	2.20%	2.31%	2.12%
Poland	2.10%	2.15%	2.13%	2.14%	2.05%	2.11%
United Kingdom	2.02%	1.87%	1.75%	1.68%	1.63%	1.78%
Turkey	2.23%	1.13%	1.41%	1.76%	2.01%	1.70%
Netherlands	1.60%	1.66%	1.74%	1.54%	1.61%	1.63%
Czechia	1.47%	1.60%	1.61%	1.57%	1.50%	1.55%
Finland	1.32%	1.32%	1.62%	1.41%	1.41%	1.43%
Spain	1.50%	1.28%	1.32%	1.41%	1.34%	1.37%
Viet Nam	1.12%	1.21%	1.32%	1.51%	1.53%	1.35%
India	1.24%	1.22%	1.19%	1.34%	1.59%	1.32%
Others	26.08%	23.30%	23.18%	23.17%	23.27%	23.69%
<b>Total</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>

Source: UN Comtrade database

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

Partner Country	2015	2016	2017	2018	2019	Grand Total
World	343.91	301.78	379.21	451.49	426.72	1903.11
China	28.33	29.95	41.67	56.02	57.32	213.30
Netherlands	40.20	31.82	38.23	43.45	44.79	198.49
Germany	15.91	21.45	26.20	34.18	28.05	125.80
Belarus	12.43	14.76	20.34	22.78	21.71	92.01
Turkey	11.70	13.76	19.04	21.31	21.15	86.97
Italy	16.20	12.28	14.04	16.40	14.34	73.28
Rep. of Korea	13.20	10.88	12.72	17.82	16.36	70.97
Kazakhstan	10.30	10.73	13.84	12.92	14.29	62.08
Poland	9.51	9.34	11.81	16.61	12.76	60.04
Japan	14.43	9.85	11.01	12.44	11.35	59.08
Areas, nes	53.10	0.34	1.52	1.61	1.92	58.49
USA	8.39	10.10	11.79	12.57	13.19	56.04
Finland	6.49	6.76	8.91	11.37	10.07	43.60
United Kingdom	4.52	7.06	8.86	9.77	13.27	43.49
Ukraine	7.16	6.65	8.36	9.52	6.62	38.31
Belgium	6.35	6.62	7.86	9.21	6.78	36.82
India	4.55	5.82	7.13	7.75	7.31	32.56
Others	81.13	93.59	115.85	135.75	125.45	551.77



<b>Total</b>	<b>687.82</b>	<b>603.56</b>	<b>758.41</b>	<b>902.99</b>	<b>853.44</b>	<b>3806.22</b>
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Source: UN Comtrade database

Table 1.4: Shares of countries in Russia's Exports of Merchandise

Partner Country	2015	2016	2017	2018	2019	Share
China	8.24%	9.93%	10.99%	12.41%	13.43%	11.21%
Netherlands	11.69%	10.54%	10.08%	9.62%	10.50%	10.43%
Germany	4.63%	7.11%	6.91%	7.57%	6.57%	6.61%
Belarus	3.61%	4.89%	5.36%	5.05%	5.09%	4.83%
Turkey	3.40%	4.56%	5.02%	4.72%	4.96%	4.57%
Italy	4.71%	4.07%	3.70%	3.63%	3.36%	3.85%
Rep. of Korea	3.84%	3.60%	3.35%	3.95%	3.83%	3.73%
Kazakhstan	3.00%	3.55%	3.65%	2.86%	3.35%	3.26%
Poland	2.77%	3.10%	3.12%	3.68%	2.99%	3.15%
Japan	4.19%	3.26%	2.90%	2.76%	2.66%	3.10%
Areas, nes	15.44%	0.11%	0.40%	0.36%	0.45%	3.07%
USA	2.44%	3.35%	3.11%	2.78%	3.09%	2.94%
Finland	1.89%	2.24%	2.35%	2.52%	2.36%	2.29%
United Kingdom	1.32%	2.34%	2.34%	2.16%	3.11%	2.29%
Ukraine	2.08%	2.21%	2.20%	2.11%	1.55%	2.01%
Belgium	1.85%	2.19%	2.07%	2.04%	1.59%	1.93%
India	1.32%	1.93%	1.88%	1.72%	1.71%	1.71%
Others	23.59%	31.01%	30.55%	30.07%	29.40%	28.99%
<b>Total</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>

Source: UN Comtrade database

From tables 1.3 and 1.4, it is seen that China, Netherlands, Germany and Belarus are the top 4 export destinations of Russia. With India, the export share is around 1.71%.

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

Table 1.5: Shares of top 10 Commodities in Russia's Imports of Merchandise

ITC-HS Chapter	Commodity Description	2015	2016	2017	2018	2019
HS-84	Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof	18.68%	23.93%	24.33%	18.15%	17.50%

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	11.55%	12.32%	12.09%	12.45%	12.05%
HS-87	Vehicles; other than railway or tramway rolling stock, and parts and accessories thereof	8.41%	8.40%	9.17%	9.88%	9.65%
HS-30	Pharmaceutical products	4.76%	4.29%	4.17%	4.40%	5.70%
HS-39	Plastics and articles thereof	4.17%	3.64%	3.38%	4.06%	3.99%
HS-90	Optical, photographic, cinematographic, measuring, checking, medical or surgical instruments and apparatus; parts and accessories	2.79%	3.31%	3.15%	2.80%	2.95%
HS-88	Aircraft, spacecraft and parts thereof	1.73%	2.48%	2.52%	2.58%	2.13%
HS-73	Iron or steel articles	2.23%	2.03%	2.07%	2.42%	2.64%
HS-08	Fruit and nuts, edible; peel of citrus fruit or melons	2.16%	1.85%	1.80%	2.12%	2.07%
HS-72	Iron and steel	1.81%	1.47%	1.87%	2.20%	2.04%

Source: UN Comtrade database

Table 1.6: Shares of top 10 Commodities in Russia's Exports of Merchandise

ITC-HS Chapter	Commodity Description	2015	2016	2017	2018	2019
HS-27	Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes	62.84%	48.29%	49.12%	52.68%	51.95%
HS-99	Commodities not specified according to kind	3.14%	13.59%	14.07%	14.11%	13.04%
HS-72	Iron and steel	4.43%	4.68%	4.95%	5.17%	4.26%
HS-71	Natural, cultured pearls; precious, semi-precious stones; precious metals, metals clad with precious metal, and articles	2.29%	2.95%	2.91%	2.24%	3.59%

	thereof; imitation jewelry; coin					
HS-84	Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof	2.52%	2.68%	2.65%	2.03%	2.12%
HS-31	Fertilizers	2.57%	2.81%	2.46%	1.82%	1.97%
HS-44	Wood and articles of wood; wood charcoal	1.84%	2.22%	2.13%	1.99%	2.02%
HS-10	Cereals	1.64%	1.86%	1.98%	2.32%	1.86%
HS-76	Aluminium and articles thereof	2.05%	1.93%	1.71%	1.40%	1.37%
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	1.01%	1.59%	1.36%	1.09%	1.31%

Source: UN Comtrade database

The top 5 highest imported products constitute ‘Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof’, ‘Electrical machinery and equipment and parts thereof’, ‘Vehicles; other than railway or tramway rolling stock, and parts and accessories thereof’, ‘Pharmaceutical products’, ‘Plastics and articles thereof’ and so on. On the other hand, the dominant export basket constitutes categories such as ‘Mineral fuels, mineral oils’, ‘Commodities not specified according to kind’, ‘Iron and steel’, ‘Natural, cultured pearls; precious, semi-precious stones’, ‘Nuclear reactors, boilers and machinery’, ‘Fertilizers’ etc. The degree of prevalence of intra-industry trade, will be discussed in more details later in this report.

## 2. Export Trade Intensity Index

Export Trade Intensity Index (ETII) of a country (here, India) with respect to an importing country (here, Russia) 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 Russia, shows that apart from China (>1), no other

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

country(ies), in general, have consistently high trade intensity indices. Thus USA, India, Brazil and South Africa, with index values less than 1, do not view Russia as a relatively important destination for exports. Therefore, Russia's import market may very well be driven by strong trade ties with China.

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

<b>Countries</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
India	0.4348	0.6538	0.4634	0.4909	0.6848
Brazil	0.9196	1.1651	0.8014	0.4680	0.4392
China	1.0904	1.6704	1.2067	1.3053	1.6429
South Africa	0.2587	0.3579	0.2561	0.2919	0.2259
USA	0.3188	0.3502	0.2719	0.2513	0.2818

*Source: UN Comtrade database*

Elaborating on the ETII, table 2.2 shows the disaggregated value of this index for India with respect to Russia. 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 Russia are relatively performing better than the world averages.

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

<b>ITC-HS Chapter</b>	<b>Trade Intensity Index (TII)</b>	<b>ITC-HS Chapter</b>	<b>Trade Intensity Index (TII)</b>	<b>ITC-HS Chapter</b>	<b>Trade Intensity Index (TII)</b>	<b>ITC-HS Chapter</b>	<b>Trade Intensity Index (TII)</b>
93	11.19	74	0.64	59	0.212	11	0.016
75	5.16	84	0.63	35	0.201	17	0.015
41	4.86	16	0.60	33	0.196	81	0.011
21	4.44	95	0.52	46	0.192	91	0.008
85	3.77	28	0.51	48	0.152	60	0.006
49	3.42	54	0.49	71	0.144	26	0.001
88	2.33	92	0.47	63	0.142	78	0.001
10	2.17	70	0.46	67	0.135	01	0.000
24	1.89	57	0.46	86	0.123	02	0.000
13	1.88	68	0.45	94	0.115	03	0.000
20	1.72	39	0.44	19	0.111	04	0.000
12	1.57	44	0.43	25	0.110	05	0.000
14	1.43	34	0.43	27	0.083	06	0.000
30	1.37	32	0.38	51	0.081	07	0.000
29	1.24	87	0.37	23	0.078	08	0.000
37	1.21	55	0.36	52	0.071	09	0.000
53	1.21	56	0.36	97	0.069	31	0.000

72	1.13	64	0.35	76	0.060	36	0.000
82	0.92	83	0.29	58	0.053	43	0.000
90	0.88	73	0.29	45	0.052	47	0.000
38	0.82	69	0.28	50	0.047	80	0.000
40	0.76	61	0.26	22	0.032	89	0.000
15	0.73	65	0.26	79	0.026		
42	0.71	99	0.25	66	0.024		
96	0.67	62	0.24	18	0.019		

*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 which are as under:

- HS-93 Arms and ammunition; parts and accessories thereof
- HS-75 Nickel and articles thereof
- HS-41 Raw hides and skins (other than furskins) and leather
- HS-21 Miscellaneous edible preparations
- 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-49 Printed books, newspapers, pictures and other products of the printing industry; manuscripts, typescripts and plans
- HS-88 Aircraft, spacecraft and parts thereof
- HS-10 Cereals
- HS-24 Tobacco and manufactured tobacco substitutes
- HS-13 Lac; gums, resins and other vegetable saps and extracts
- HS-20 Preparations of vegetables, fruit, nuts or other parts of plants
- HS-12 Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit, industrial or medicinal plants; straw and fodder
- HS-14 Vegetable plaiting materials; vegetable products not elsewhere specified or included
- HS-30 Pharmaceutical products
- HS-29 Organic chemicals
- HS-37 Photographic or cinematographic goods
- HS-53 Vegetable textile fibres; paper yarn and woven fabrics of paper yarn
- HS-72 Iron and steel

### **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 Russia 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 Russia imports in 2019 stood at

0.34, which is not very high, given that the index between Indian exports and world imports was 0.39. Hence, the Relative Trade Complementarity Index is 0.88 (i.e.  $< 1$ ), meaning that India's exports have less complementarity with Russian 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 Russia, 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 Russia*

	2015	2016	2017	2018	2019
<b>TCI Between India and Russia<sup>4</sup></b>	0.3109	0.3068	0.3139	0.3199	0.3439
<b>TCI Between India<sup>5</sup> and World</b>	0.4125	0.3786	0.3981	0.4033	0.3903
<b>RTCPI<sup>6</sup></b>	0.7536	0.8104	0.7884	0.7935	0.8812

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

Countries	TCI	TCIW	RTCPI
China	0.4840	0.5096	0.9499
Germany	0.6147	0.6097	1.008
USA	0.4904	0.6690	0.7331
Belarus	0.2869	0.3312	0.8663
Italy	0.5375	0.5263	1.0212

*Source: Computed from UN Comtrade Database*

When we compare the Relative Trade Complementarity Index (RTCPI) between India and Russia to that of other exporting countries and Russia in table 3.2, we see that India's RTCPI is comparable to Belarus (0.86) but lower than China, Germany and Italy but higher than USA. However, even if the value of the index may not be high, it is a composite value depending on all the differences between 6-digit values, as mentioned before, taken together. The differences at the individual product group level may be examined. The differences at the individual ITC-HS 2-digit level are examined to find out at which products the complementarities lie and there is a greater match between demand (imports) and supply (exports).

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

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

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

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

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

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

ITC-HS Chapter	India		Russia	
	Exports(Bn \$)	Share of Chapters(%)	Imports(Bn \$)	Share of Chapters(%)
HS-01	0.0169	0.01%	0.3015	0.12%
HS-02	3.4506	1.07%	1.8887	0.76%
HS-03	6.3004	1.95%	1.8052	0.73%
HS-04	0.4457	0.14%	3.0153	1.22%
HS-05	0.1014	0.03%	0.0736	0.03%
HS-06	0.0793	0.02%	0.5635	0.23%
HS-07	1.0943	0.34%	1.8400	0.74%
HS-08	1.4867	0.46%	5.1134	2.07%
HS-09	3.3034	1.02%	1.1588	0.47%
HS-10	7.0668	2.19%	0.2814	0.11%
HS-11	0.3146	0.10%	0.1211	0.05%
HS-12	1.7024	0.53%	1.7231	0.70%
HS-13	0.9440	0.29%	0.2322	0.09%
HS-14	0.0498	0.02%	0.0069	0.00%
HS-15	1.1745	0.36%	1.2749	0.52%
HS-16	0.4684	0.14%	0.5264	0.21%
HS-17	1.9732	0.61%	0.3627	0.15%
HS-18	0.1896	0.06%	1.2503	0.51%
HS-19	0.5380	0.17%	0.8814	0.36%
HS-20	0.6136	0.19%	1.2367	0.50%
HS-21	0.8278	0.26%	1.4451	0.58%
HS-22	0.2760	0.09%	3.0352	1.23%
HS-23	1.4475	0.45%	0.9523	0.39%
HS-24	0.9646	0.30%	0.8754	0.35%
HS-25	2.0050	0.62%	0.7383	0.30%
HS-26	3.0293	0.94%	2.2922	0.93%
HS-27	44.5327	13.78%	1.9542	0.79%
HS-28	1.8202	0.56%	3.8564	1.56%
HS-29	18.2474	5.64%	4.4473	1.80%
HS-30	16.2640	5.03%	14.0783	5.70%
HS-31	0.1271	0.04%	0.1373	0.06%
HS-32	3.5043	1.08%	1.9121	0.77%
HS-33	2.3631	0.73%	3.4783	1.41%
HS-34	0.6397	0.20%	1.5275	0.62%
HS-35	0.2333	0.07%	0.7169	0.29%
HS-36	0.1184	0.04%	0.0554	0.02%
HS-37	0.0113	0.00%	0.2992	0.12%
HS-38	5.1351	1.59%	3.4063	1.38%

HS-39	7.3513	2.27%	9.8509	3.99%
HS-40	3.2271	1.00%	3.9993	1.62%
HS-41	0.5548	0.17%	0.0581	0.02%
HS-42	2.5133	0.78%	0.9646	0.39%
HS-43	0.0130	0.00%	0.2531	0.10%
HS-44	0.4776	0.15%	0.6220	0.25%
HS-45	0.0032	0.00%	0.0517	0.02%
HS-46	0.0478	0.01%	0.0184	0.01%
HS-47	0.0083	0.00%	0.1778	0.07%
HS-48	2.0613	0.64%	2.4570	0.99%
HS-49	0.3672	0.11%	0.3743	0.15%
HS-50	0.0843	0.03%	0.0040	0.00%
HS-51	0.1815	0.06%	0.0416	0.02%
HS-52	6.0027	1.86%	0.5533	0.22%
HS-53	0.4470	0.14%	0.0444	0.02%
HS-54	2.3426	0.72%	0.5151	0.21%
HS-55	1.7511	0.54%	0.6185	0.25%
HS-56	0.4223	0.13%	0.4950	0.20%
HS-57	1.7142	0.53%	0.2191	0.09%
HS-58	0.4139	0.13%	0.1296	0.05%
HS-59	0.2774	0.09%	0.3591	0.15%
HS-60	0.4435	0.14%	0.3553	0.14%
HS-61	7.8796	2.44%	3.5624	1.44%
HS-62	8.3622	2.59%	3.7941	1.54%
HS-63	5.1631	1.60%	0.8264	0.33%
HS-64	2.8084	0.87%	3.3961	1.37%
HS-65	0.0576	0.02%	0.1551	0.06%
HS-66	0.0034	0.00%	0.0242	0.01%
HS-67	0.2738	0.08%	0.0407	0.02%
HS-68	1.6991	0.53%	0.9377	0.38%
HS-69	1.8193	0.56%	0.9362	0.38%
HS-70	0.9095	0.28%	0.9101	0.37%
HS-71	36.7344	11.36%	1.0735	0.43%
HS-72	9.7738	3.02%	5.0509	2.04%
HS-73	7.2509	2.24%	6.5174	2.64%
HS-74	0.8985	0.28%	1.0372	0.42%
HS-75	0.0940	0.03%	0.1046	0.04%
HS-76	5.2443	1.62%	1.2007	0.49%
HS-78	0.3982	0.12%	0.0170	0.01%
HS-79	0.5559	0.17%	0.1621	0.07%
HS-80	0.0109	0.00%	0.0258	0.01%
HS-81	0.0496	0.02%	0.4070	0.16%
HS-82	0.8904	0.28%	1.7240	0.70%
HS-83	0.6662	0.21%	1.6404	0.66%



HS-84	21.2637	6.58%	43.2609	17.50%
HS-85	14.9407	4.62%	29.7880	12.05%
HS-86	0.3543	0.11%	1.0380	0.42%
HS-87	17.4126	5.39%	23.8565	9.65%
HS-88	1.4931	0.46%	5.2553	2.13%
HS-89	5.7995	1.79%	1.8675	0.76%
HS-90	3.3912	1.05%	7.2971	2.95%
HS-91	0.0969	0.03%	0.3353	0.14%
HS-92	0.0263	0.01%	0.1079	0.04%
HS-93	0.1294	0.04%	0.0357	0.01%
HS-94	1.8418	0.57%	2.9085	1.18%
HS-95	0.4236	0.13%	2.1493	0.87%
HS-96	0.6254	0.19%	1.1749	0.48%
HS-97	0.1309	0.04%	0.0136	0.01%
HS-99	0.2120	0.07%	3.5022	1.42%
<b>Total</b>	<b>323.2507</b>	<b>100%</b>	<b>247.1613</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 Russia'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 Russia'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 if a need to align India's exports to Russia's imports is recognized.

Table 3.4: Top Twenty Chapters with highest absolute difference in shares (in Indian exports and Russian imports in 2019)

ITC-HS Chapter	Commodity Description	Absolute Value of Difference in Shares(%)	Higher Share in
HS-27	Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes	12.99%	Indian Exports
HS-71	Natural, cultured pearls; precious, semi-precious stones; precious metals, metals clad with precious metal, and articles thereof; imitation jewellery; coin	10.93%	Indian Exports
HS-84	Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof	10.93%	Russian 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	7.43%	Russian Imports
HS-87	Vehicles; other than railway or tramway rolling stock, and parts and accessories thereof	4.27%	Russian Imports
HS-29	Organic chemicals	3.85%	Indian Exports
HS-10	Cereals	2.07%	Indian Exports
HS-90	Optical, photographic, cinematographic, measuring, checking, medical or surgical instruments and apparatus; parts and accessories	1.90%	Russian Imports
HS-39	Plastics and articles thereof	1.71%	Russian Imports
HS-88	Aircraft, spacecraft and parts thereof	1.66%	Russian Imports
HS-52	Cotton	1.63%	Indian Exports
HS-08	Fruit and nuts, edible; peel of citrus fruit or melons	1.61%	Russian Imports
HS-99	Commodities not specified according to kind	1.35%	Russian Imports
HS-63	Textiles, made up articles; sets; worn clothing and worn textile articles; rags	1.26%	Indian Exports
HS-03	Fish and crustaceans, molluscs and other aquatic invertebrates	1.22%	Indian Exports
HS-22	Beverages, spirits and vinegar	1.14%	Russian Imports
HS-76	Aluminium and articles thereof	1.14%	Indian Exports
HS-04	Dairy produce; birds' eggs; natural honey; edible products of animal origin, not elsewhere specified or included	1.08%	Russian Imports
HS-62	Apparel and clothing accessories; not knitted or crocheted	1.05%	Indian Exports

*Source: Computed from UN Comtrade Database*

It is evident from table 3.4 that in case of major high-technology manufactures like chapters 85 ('Electrical, electronic equipment'), 84 ('Nuclear reactors, boilers, machinery, etc. '), 88 (Aircraft, spacecraft and parts thereof), 90 ('Optical, photo, technical, medical, etc apparatus'), 87 (Vehicles; other than railway or tramway rolling stock, and parts and accessories thereof ), the shares in Russia's imports substantially outweigh those in Indian exports. The commodity groups in case of which shares in Indian exports outstrip those in Russian imports include items involving Mineral fuels, mineral oils (chapter 27), Natural, cultured pearls; precious, semi-precious stones; precious metals etc. (chapter 71), organic chemicals (chapter 29), cereals (chapter 10), cotton (chapter 52),

Textiles(chapter 63), fish and crustaceans etc. (chapter 03), Aluminium (chapter 76) ,apparel items (chapter 62).

#### 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 Russia'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 Russia's imports for a commodity (or commodity group) imported to Russia is higher than 1 if its importance is more in Russia'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 Russia higher than 1 are the sectors which India's exports and Russia'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 Russia. Tables 4.1 and 4.2 shows values of RCA for Indian exports and of RCII for Russia'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 Russia's imports in 2019 – ITC-HS chapter-wise

ITC-HS Chapter	RCII	ITC-HS Chapter	RCII	ITC-HS Chapter	RCII	ITC-HS Chapter	RCII
43	3.88	37	1.51	60	1.04	91	0.52
86	2.65	68	1.50	54	1.00	14	0.40
28	2.36	84	1.50	36	0.97	80	0.39
89	2.35	21	1.47	99	0.96	44	0.35
13	2.29	81	1.46	23	0.96	75	0.28
82	2.11	55	1.43	94	0.95	51	0.26
45	2.00	62	1.40	19	0.93	47	0.26
18	1.98	95	1.39	70	0.93	41	0.23
34	1.98	12	1.32	90	0.92	10	0.22
22	1.94	61	1.30	42	0.92	93	0.21
96	1.89	38	1.26	16	0.88	50	0.21
33	1.88	59	1.26	85	0.80	78	0.17
32	1.85	87	1.24	53	0.79	31	0.16
64	1.83	57	1.24	29	0.78	71	0.13
35	1.79	39	1.23	17	0.77	27	0.07
73	1.72	65	1.18	49	0.75	97	0.03
88	1.70	48	1.17	46	0.70		
83	1.70	15	1.17	79	0.69		
30	1.69	25	1.13	26	0.66		
40	1.66	92	1.11	66	0.63		
24	1.63	63	1.09	76	0.54		
69	1.61	52	1.08	74	0.53		
20	1.60	72	1.05	11	0.53		
56	1.59	58	1.04	67	0.52		

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 Russian imports >1 as these commodity groups have good potential for bilateral trade between India and Russia with India having a relatively superlative standing in production/supply of these commodities, which then have a larger than average import demand in Russia. These commodities should be the intersection set of ITC-HS chapters with RCA >1 in Set

A={13,57,52,53,63,10,78,71,14,17,89,55,25,54,29,32,50,62,61,58,79,68,76,69,41,42,72,36,30,67,38,73,27,24,23,64,12,46,40} and

RCII>1 in Set B=

{43,86,28,89,13,82,45,18,34,22,96,33,32,64,35,73,88,83,30,40,24,69,20,56,37,68,84,21,81,55,62,95,12,61,38,59,87,57,39,65,48,15,25,92,63,52,72,58,60}.

Let  $A \cap B$  be called Set C= { 13,57,52,63,89,55,25,32,62,61,58,68 69,72,30,38,73,24,64,12,40 }.

The associated commodity descriptions are:

HS-13 Lac; gums, resins and other vegetable saps and extracts

HS-57 Carpets and other textile floor coverings

HS-52 Cotton

HS-63 Textiles, made up articles; sets; worn clothing and worn textile articles; rags

HS-89 Ships, boats and floating structures

HS-55 Man-made staple fibres

HS-25 Salt; sulphur; earths, stone; plastering materials, lime and cement

HS-32 Tanning or dyeing extracts; tannins and their derivatives; dyes, pigments and other colouring matter; paints, varnishes; putty, other mastics; inks

HS-62 Apparel and clothing accessories; not knitted or crocheted

HS-61 Apparel and clothing accessories; knitted or crocheted

HS-58 Fabrics; special woven fabrics, tufted textile fabrics, lace, tapestries, trimmings, embroidery

HS-68 Stone, plaster, cement, asbestos, mica or similar materials; articles thereof

HS-69 Ceramic products

HS-72 Iron and steel

HS-30 Pharmaceutical products

HS-38 Chemical products n.e.c.

HS-73 Iron or steel articles

HS-24 Tobacco and manufactured tobacco substitutes

HS-64 Footwear; gaiters and the like; parts of such articles

HS-12 Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit, industrial or medicinal plants; straw and fodder

HS-40 Rubber and articles thereof

*Table 4.3 : RCA of Indian exports to Russia 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
21	9.37	34	1.04	33	0.53	66	0.03
13	6.37	95	1.03	65	0.51	50	0.03
85	4.42	64	1.01	59	0.51	81	0.02
93	4.14	42	0.93	86	0.27	17	0.02
20	4.01	16	0.91	48	0.26	27	0.02
30	3.53	53	0.86	44	0.25	11	0.01

24	3.48	68	0.84	63	0.25	60	0.01
12	3.07	56	0.83	46	0.19	91	0.01
49	2.68	57	0.79	25	0.19	26	0.00
88	2.56	55	0.74	94	0.18	78	0.00
82	2.39	83	0.72	45	0.16	31	0.00
41	1.88	87	0.72	99	0.16	36	0.00
75	1.73	92	0.72	67	0.15	43	0.00
37	1.72	54	0.72	19	0.14	47	0.00
40	1.70	10	0.70	23	0.12	80	0.00
96	1.68	39	0.69	51	0.10	89	0.00
38	1.47	73	0.59	52	0.09		
90	1.37	62	0.58	58	0.08		
84	1.33	70	0.57	22	0.07		
72	1.32	74	0.56	76	0.05		
29	1.30	35	0.55	18	0.05		
15	1.30	61	0.55	97	0.04		
28	1.11	14	0.54	79	0.03		
32	1.04	69	0.53	71	0.03		

Source: Computed from UN Comtrade Database

It can be established that if, for a particular commodity, RCA for India and RCII for Russia are both > 1, it can be expected that RCII for that commodity in Russia'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 Russia 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 Russia's importers need to be adopted.

Table 4.4: RCII of Russia'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
21	9.19	61	0.94	45	0.35	86	0.01
24	8.26	43	0.89	14	0.35	80	0.01
13	4.31	62	0.88	44	0.33	11	0.00
85	3.39	10	0.87	26	0.32	93	0.00
30	2.94	55	0.86	46	0.31	60	0.00

82	2.60	34	0.83	17	0.27	31	0.00
12	2.55	37	0.83	63	0.27	88	0.00
96	2.47	68	0.81	50	0.26	79	0.00
20	2.46	54	0.80	59	0.20	97	0.00
49	2.17	15	0.78	92	0.20	78	0.00
95	1.94	87	0.73	94	0.19		
38	1.78	56	0.72	48	0.19		
84	1.57	16	0.72	52	0.15		
75	1.57	22	0.71	91	0.14		
40	1.55	73	0.70	19	0.14		
41	1.53	39	0.70	67	0.13		
64	1.50	90	0.64	25	0.12		
33	1.30	83	0.63	71	0.08		
42	1.22	69	0.60	51	0.07		
53	1.12	65	0.56	66	0.07		
72	1.12	57	0.53	23	0.05		
29	1.05	81	0.52	76	0.05		
74	1.04	70	0.52	99	0.05		
32	1.02	35	0.48	27	0.02		
28	0.99	58	0.35	18	0.02		

Source: Computed from UN Comtrade Database

Delving deeper in tables 4.3 and 4.4, we find that twenty ITC-HS chapters viz. 21,24,13,85,30,82,12,96,20,49,95,38,84,75,40,41,64,72,29,32 have both RCA of Indian exports to Russia in 2019 and RCII of Russia 's imports from India in 2019 greater than 1. 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 Russia < 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 Russia'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 Russia, say  $g < s$ .  $g$  can be  $< s$  only when, for some reason, Russia 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 Russia's share in India's export of P falls below Russia'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 Russia.

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 Russia, table 5.1 shows that the value of the index, between 2015 and 2019, averages around 0.2. 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 Russia. A relatively higher level of concentration of exports means that India's export basket to Russia is less diverse than to the world and it may bring forth gains from specialization. However, a more concentrated export also indicates a broader production base and greater concentration (industry specific) risks.

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

Year	India-Russia HHI	India-World HHI
2015	0.21	0.13
2016	0.19	0.13
2017	0.18	0.13
2018	0.18	0.15
2019	0.25	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 Russia and imports from Russia 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 Russia is generally not very high owing to wide differences in soil and climatic conditions, the two countries have little in common as regards crops and food preferences and other agricultural produce and nature of terrain and climatic conditions.

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

ITC-HS Chapter	Commodity Description	Grubel Lloyd Index
HS-01	Animals; live	
HS-02	Meat and edible meat offal	0.00107
HS-03	Fish and crustaceans, molluscs and other aquatic invertebrates	0.00283
HS-04	Dairy produce; birds' eggs; natural honey; edible products of animal origin, not elsewhere specified or included	
HS-05	Animal originated products; not elsewhere specified or included	0.15482
HS-06	Trees and other plants, live; bulbs, roots and the like; cut flowers and ornamental foliage	
HS-07	Vegetables and certain roots and tubers; edible	0.61111
HS-08	Fruit and nuts, edible; peel of citrus fruit or melons	
HS-09	Coffee, tea, mate and spices	0.06505
HS-10	Cereals	0.31018
HS-11	Products of the milling industry; malt, starches, inulin, wheat gluten	
HS-12	Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit, industrial or medicinal plants; straw and fodder	0.01167
HS-13	Lac; gums, resins and other vegetable saps and extracts	
HS-14	Vegetable plaiting materials; vegetable products not elsewhere specified or included	

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

HS-15	Animal or vegetable fats and oils and their cleavage products; prepared animal fats; animal or vegetable waxes	0.14701
HS-16	Meat, fish or crustaceans, molluscs or other aquatic invertebrates; preparations thereof	
HS-17	Sugars and sugar confectionery	
HS-18	Cocoa and cocoa preparations	0.12549
HS-19	Preparations of cereals, flour, starch or milk; pastrycooks' products	
HS-20	Preparations of vegetables, fruit, nuts or other parts of plants	0.00751
HS-21	Miscellaneous edible preparations	0.00124
HS-22	Beverages, spirits and vinegar	0.48823
HS-23	Food industries, residues and wastes thereof; prepared animal fodder	
HS-24	Tobacco and manufactured tobacco substitutes	

Source: Computed from UN Comtrade Database

The same is true for ores and minerals as is shown in table 6.2, as the two countries are differently endowed with these natural resources.

Table 6.2: Grubel-Lloyd Index for India and Russia 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	0.04108
HS-26	Ores, slag and ash	0.00041
HS-27	Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes	0.00429

Source: Computed from UN Comtrade Database

In chemicals and chemical-based industries shown in Table 6.3 below, IIT values are on the lower end except for HS-40 (Rubber) with IIT value at 0.66 indicating a moderately high degree of intra-industry trade.

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

ITC-HS Chapter	Commodity Description	Grubel Lloyd Index
HS-28	Inorganic chemicals; organic and inorganic compounds of precious metals; of rare earth metals, of radio-active elements and of isotopes	0.25596
HS-29	Organic chemicals	0.50180
HS-30	Pharmaceutical products	0.00246
HS-31	Fertilizers	

HS-32	Tanning or dyeing extracts; tannins and their derivatives; dyes, pigments and other colouring matter; paints, varnishes; putty, other mastics; inks	0.51780
HS-33	Essential oils and resinoids; perfumery, cosmetic or toilet preparations	0.05222
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	0.36499
HS-35	Albuminoidal substances; modified starches; glues; enzymes	0.03305
HS-36	Explosives; pyrotechnic products; matches; pyrophoric alloys; certain combustible preparations	
HS-37	Photographic or cinematographic goods	
HS-38	Chemical products n.e.c.	0.36656
HS-39	Plastics and articles thereof	0.38569
HS-40	Rubber and articles thereof	0.66027

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-41(Raw hides and skins (other than furskins) and leather) which a very high degree of intra-industry trade, almost 1.

Table 6.4: Grubel-Lloyd Index for India and Russia 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	0.98899
HS-42	Articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles of animal gut (other than silk-worm gut)	0.00003
HS-43	Furskins and artificial fur; manufactures thereof	
HS-44	Wood and articles of wood; wood charcoal	0.08867
HS-45	Cork and articles of cork	
HS-46	Manufactures of straw, esparto or other plaiting materials; basketware and wickerwork	
HS-47	Pulp of wood or other fibrous cellulosic material; recovered (waste and scrap) paper or paperboard	
HS-48	Paper and paperboard; articles of paper pulp, of paper or paperboard	0.03146
HS-49	Printed books, newspapers, pictures and other products of the printing industry; manuscripts, typescripts and plans	0.17329

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 Russia in 2019 – Textiles, Textile Articles, Footwear and Headgear (Chapters 50-65)*

<b>ITC-HS Chapter</b>	<b>Commodity Description</b>	<b>Grubel Lloyd Index</b>
HS-50	Silk	0.14552
HS-51	Wool, fine or coarse animal hair; horsehair yarn and woven fabric	0.05591
HS-52	Cotton	0.00194
HS-53	Vegetable textile fibres; paper yarn and woven fabrics of paper yarn	0.06025
HS-54	Man-made filaments; strip and the like of man-made textile materials	0.00408
HS-55	Man-made staple fibres	0.00007
HS-56	Wadding, felt and nonwovens, special yarns; twine, cordage, ropes and cables and articles thereof	0.01520
HS-57	Carpets and other textile floor coverings	0.00002
HS-58	Fabrics; special woven fabrics, tufted textile fabrics, lace, tapestries, trimmings, embroidery	0.00629
HS-59	Textile fabrics; impregnated, coated, covered or laminated; textile articles of a kind suitable for industrial use	0.21128
HS-60	Fabrics; knitted or crocheted	
HS-61	Apparel and clothing accessories; knitted or crocheted	0.00004
HS-62	Apparel and clothing accessories; not knitted or crocheted	0.00284
HS-63	Textiles, made up articles; sets; worn clothing and worn textile articles; rags	0.01269
HS-64	Footwear; gaiters and the like; parts of such articles	0.00672
HS-65	Headgear and parts thereof	0.00023

*Source: Computed from UN Comtrade Database*

The assorted group in Table 6.6 shows that in case of HS-70(‘Glass and glassware’), intra-industry trade is very high (0.94).

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

<b>ITC-HS Chapter</b>	<b>Commodity Description</b>	<b>Grubel Lloyd Index</b>
HS-66	Umbrellas, sun umbrellas, walking-sticks, seat sticks, whips, riding crops; and parts thereof	
HS-67	Feathers and down, prepared; and articles made of feather or of down; artificial flowers; articles of human hair	
HS-68	Stone, plaster, cement, asbestos, mica or similar materials; articles thereof	0.35379

HS-69	Ceramic products	0.03372
HS-70	Glass and glassware	0.94410
HS-71	Natural, cultured pearls; precious, semi-precious stones; precious metals, metals clad with precious metal, and articles thereof; imitation jewellery; coin	0.02569

Source: Computed from UN Comtrade Database

As regards metals and articles made thereof, there is high intra-industry trade ( $>0.8$ ) in chapters 72 ('Iron and steel') and 73 ('Iron or steel articles') which means that for iron, there may be, prima-facie, as per Grubel-Lloyd Index value, predominant trade of goods within the same industry (iron) from India to Russia. Table 6.7 shows the index values for chapters 72 to 83.

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

ITC-HS Chapter	Commodity Description	Grubel Lloyd Index
HS-72	Iron and steel	0.83216
HS-73	Iron or steel articles	0.96935
HS-74	Copper and articles thereof	0.36646
HS-75	Nickel and articles thereof	0.16270
HS-76	Aluminium and articles thereof	0.17361
HS-78	Lead and articles thereof	0.00024
HS-79	Zinc and articles thereof	0.06819
HS-80	Tin; articles thereof	
HS-81	Metals; n.e.c., cermets and articles thereof	0.00185
HS-82	Tools, implements, cutlery, spoons and forks, of base metal; parts thereof, of base metal	0.04951
HS-83	Metal; miscellaneous products of base metal	0.11864

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-90 ('Optical, photographic, cinematographic, measuring, checking, medical or surgical instruments and apparatus; parts and accessories') and 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') have moderately high intra-industry trade (index value  $> 0.6$ ). Table 6.8 shows the index values for chapters 84 to 99.

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

ITC-HS Chapter	Commodity Description	

HS-84	Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof	0.45984
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	0.20095
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	0.48211
HS-87	Vehicles; other than railway or tramway rolling stock, and parts and accessories thereof	0.01166
HS-88	Aircraft, spacecraft and parts thereof	0.87098
HS-89	Ships, boats and floating structures	
HS-90	Optical, photographic, cinematographic, measuring, checking, medical or surgical instruments and apparatus; parts and accessories	0.64330
HS-91	Clocks and watches and parts thereof	0.00595
HS-92	Musical instruments; parts and accessories of such articles	0.01846
HS-93	Arms and ammunition; parts and accessories thereof	0.00381
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	0.60552
HS-95	Toys, games and sports requisites; parts and accessories thereof	0.10830
HS-96	Miscellaneous manufactured articles	0.02337
HS-97	Works of art; collectors' pieces and antiques	0.00094
HS-99	Commodities not specified according to kind	0.00125

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 Russia, India and Singapore, India and South Korea, India and Thailand, India and China, India and USA, India and UK, India and Germany, and India and Japan.

*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

*Source: Computed from UN Comtrade Database*

The Export Similarity Index between India and Russia is not very high and is comparable with ESI between India-Thailand and India-Japan.

Table 7.2 below shows that Russia'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 – Russia and a few countries*

	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
Russia-Singapore	25.46	24.76	24.01	26.05	24.57
Russia-South Korea	15.51	14.04	16.36	16.90	17.31
Russia-China	10.51	10.82	11.51	11.11	11.85
Russia-USA	21.62	26.70	24.66	31.24	33.73
Russia-UK	20.93	18.65	23.16	25.15	23.28
Russia-Germany	17.39	18.86	18.61	17.32	18.59
Russia-Japan	14.91	17.56	16.62	17.79	18.82

*Source: Computed from UN Comtrade Database*

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

Russia-Singapore	24.97
Russia-South Korea	16.02
Russia-China	11.16
Russia-USA	27.59
Russia-UK	22.23
Russia-Germany	18.15
Russia-Japan	17.14

ESI between Russia 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/Russia>
- 2019 ARTICLE IV CONSULTATION—PRESS RELEASE; STAFF REPORT (IMF Country Report No. 19/260)
- World Trade Organization (WTO) Trade Policy Reviews: Russia
- Human Development Report 2020



## VII Appendix

### A. Data on Country Profile

Table A: Country Profile — Russia

<b>Country Profile : Russian Federation</b>				
	<b>1990</b>	<b>2000</b>	<b>2010</b>	<b>2018</b>
<b>World view</b>				
Population, total (millions)	147.97	146.6	142.85	144.48
Population growth (annual %)	0.2	-0.4	0	0
Surface area (sq. km) (thousands)	17,098.20	17,098.20	17,098.30	17,098.30
Population density (people per sq. km of land area)	9	8.9	8.7	8.8
Poverty headcount ratio at national poverty lines (% of population)	..	29	12.5	12.9
Poverty headcount ratio at \$1.90 a day (2011 PPP) (% of population)	3.7	3.1	0.1	0
GNI, Atlas method (current US\$) (billions)	510.75	250.29	1,425.18	1,506.14
GNI per capita, Atlas method (current US\$)	3,440	1,710	9,980	10,250
GNI, PPP (current international \$) (billions)	1,185.50	974.63	2,836.59	4,121.19
GNI per capita, PPP (current international \$)	8,010	6,650	19,860	28,040
<b>People</b>				
Income share held by lowest 20%	4.4	6.4	6.4	7.1
Life expectancy at birth, total (years)	69	65	69	73
Fertility rate, total (births per woman)	1.9	1.2	1.6	1.6
Adolescent fertility rate (births per 1,000 women ages 15-19)	51	31	28	20
Contraceptive prevalence, any methods (% of women ages 15-49)	63	..	65	..
Births attended by skilled health staff (% of total)	99	99	100	..
Mortality rate, under-5 (per 1,000 live births)	22	19	10	6
Prevalence of underweight, weight for age (% of children under 5)	..	..	..	..
Immunization, measles (% of children ages 12-23 months)	83	97	98	98

Primary completion rate, total (% of relevant age group)	..	90	97	102
School enrollment, primary (% gross)	108	102.8	101.1	104.7
School enrollment, secondary (% gross)	98	92	92	104
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)	8,089.50	8,092.70	8,151.40	8,148.90
Terrestrial and marine protected areas (% of total territorial area)	..	..	..	7.6
Annual freshwater withdrawals, total (% of internal resources)	..	1.5	..	..
Urban population growth (annual %)	0.2	-0.4	0.1	0.2
Energy use (kg of oil equivalent per capita)	5,942	4,224	4,819	..
CO2 emissions (metric tons per capita)	24.4	10.63	11.69	12
Electric power consumption (kWh per capita)	6,688	5,198	6,410	..
<b>Economy</b>				
GDP (current US\$) (billions)	516.81	259.71	1,524.92	1,669.58
GDP growth (annual %)	-3	10	4.5	2.5
Inflation, GDP deflator (annual %)	15.9	37.7	14.2	11.1
Agriculture, forestry, and fishing, value added (% of GDP)	15	6	3	3
Industry (including construction), value added (% of GDP)	45	34	30	33
Exports of goods and services (% of GDP)	18	44	29	31
Imports of goods and services (% of GDP)	18	24	21	21
Gross capital formation (% of GDP)	30	19	23	22
Revenue, excluding grants (% of GDP)	..	23	20.7	20
Net lending (+) / net borrowing (-) (% of GDP)	..	7	-2.4	3.1
<b>States and markets</b>				
Time required to start a business (days)	..	..	13	10

Domestic credit provided by financial sector (% of GDP)	..	..	..	70.8
Tax revenue (% of GDP)	..	13.6	13	11.4
Military expenditure (% of GDP)	4.4	3.3	3.6	3.7
Mobile cellular subscriptions (per 100 people)	0	2.2	165.7	157.4
Individuals using the Internet (% of population)	0	2	43	80.9
High-technology exports (% of manufactured exports)	..	..	10	11
Statistical Capacity score (Overall average)	..	..	88	83
<b>Global links</b>				
Merchandise trade (% of GDP)	0	0	0	0
Net barter terms of trade index (2000 = 100)	..	100	160	169
External debt stocks, total (DOD, current US\$) (millions)	79,671	1,46,665	4,17,852	4,53,808
Total debt service (% of exports of goods, services and primary income)	..	10.1	11.6	19.6
Net migration (thousands)	2,490	1,778	1,801	912
Personal remittances, received (current US\$) (millions)	..	500	5,250	9,287
Foreign direct investment, net inflows (BoP, current US\$) (millions)	1,161	2,678	43,168	8,785
Net official development assistance received (current US\$) (millions)	..	..	..	..

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

*Data from database: World Development Indicators*  
*Last Updated:12/16/2020*

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

Commodity Code (6-digit)	Commodity Code Description
120991	VEGETABLE SEEDS USED FOR SOWING

281820	ALUMINIUM OXIDE OTHER THAN ARTIFICIAL CORUNDUM
300410	MDCMNTS CNTNG PENCLLNS/DRVTVS THROF WTH A PENCLLNC ACID STRCTR/STRPTMYCNS OR THR DERVTVS PUT UP FOR RTL SALE
321290	OTHR PIGMNTS DYS AND CLRNG MATR
340111	SOAP AND ORGNC SURFACE ACTV PRDCTS ETC FOR TIOLET USE (INCL MEDICATED PRDCTS)
340490	OTHER ARTFCL WAXES AND PRPD WAXES
380891	INSECTICIDES
392049	OTHR PLTES SHTS OF POLYMR OF VINYL CHLORID
400821	PLTS SHTS STRPS OF NON-CELLULAR RUBR
400829	OTHR OF NON-CELLULAR RUBBER
401699	ARTCLS OF VULCANISED RBR EXCL HRD RBR NES
482010	REGISTRS ACCT/NOTE/ORDR/RECPT BOOKS LETR/ MEMO PADS DIARIS AND SMLR ARTCLS OF PAPR
570500	OTHER CARPETS AND OTHER TEXTILE FLOOR COVERINGS, WHETHER OR NOT MADE UP:
610910	T-SHIRTS ETC OF COTTON
620442	DRESSES OF COTTON
620443	DRESSES OF SYNTHETIC FIBRES
620640	BLOUSES,SHIRTS ETC OF MAN-MADE FIBRES
690220	REFRACTORY BRCKS BLOCKS ETC CONTNG BY WT> 50% OF ALUMINA,SILICA/OF MIXTURE OF THESE
690290	OTHR REFRACTROY BRICKS,BLOCKS,TILES ETC
701790	OTHR LBRTRY/HYGNC/PHRMCTCL GLSSWARE
720299	OTHER FERRO-ALLOYS

730441	OTHR TUBS,PIPE AND HOLO PROFILE OF CIRCULR CROSS-SECTION OF STAINLES STEEL,COLD DRAWNOR COLD ROLLED
730719	OTHER CAST FITTINGS
730721	FLANGES OF STAINLESS STEEL
730791	FLANGES OF OTHER IRON OR STEEL
730799	OTHR TUBE/PIPE FITTINGS OF OTHR IRON/STL
731819	OTHER THREADED ARTICLES
731822	OTHER WASHERS
731990	OTHER ARTICLES OF 7319
741521	WASHRS(INCL SPRING WASHRS),NOT THREADED
761510	TABLE, KITCHEN AND HOUSEHOLD ARTICLES AND PARTS POT SCOURERS AND SCOURING OR POLISHING PADS, GLOVES
761699	OTHERS ARTICLES OF ALUMINIUM (OTHERS).
820310	FILES,RASPS AND SMRL TOOLS
820510	DRILLING THREADING OR TAPING TOOLS
820740	TOOLS FOR TAPPING AND THREADING
820890	OTHR KNIVS AND CUTNG BLADES
840490	PARTS OF THE ITEMS OF 840410 AND 840420
841231	LINEAR ACTING (CYLINDERS),PNEUMATIC POWER ENGINES AND MOTORS
841280	OTHER ENGINES AND MOTORS NES
841391	PARTS OF PUMPS
841440	AIR CMPRSRS MOUNTD ON WHELD CHASIS FR TWNG
843041	SELF-PROPELLED BORING/SINKING MACHINERY
843890	PARTS OF THE MACHINE OF HEADING 8438

844250	PRNTNG TYPE,BLOCKS,PLTS,CYLNDRS AND OTHR PRNTNG CMP-NTS;BLCKS,PLTS,CYLNDR AND LTHGRPHC-STONES,PRPRD FR PRNTNG PURPOSES
845819	OTHER HORIZONTAL LATHES
846719	OTHERS PNEUMATIC TOOLS
846890	PARTS OF ARTICLES OF HEADING 8468
848310	TRNSMSN SHFT(INCL CAM AND CRNK SHFT) AND CRNK
848340	GEARS AND GEARNG,EXCL TOOTHD WHEELS,TRNSMSN ELMNTS PRSNTD SEPRTRY;BALL SCRWS;GEAR BOXSAND SPEED CHNGRS,INCL TORQUE CNVRTRS
848410	GSKTS AND SMLR JOINTS OF MTL SHTNG CMBND WTHOTHR MTRL/OF TWO/MORE LAYRS OF MTL
850410	BALLASTS FR DISCHARGE LAMPS/TUBES
851140	STRTR MTRS AND DUAL PURPOSE STRTR GNRTRS
853521	AUTMTC CIRCUIT BRKRS FR A VLTG OF <72.5KV
853620	AUTMTC CIRCUIT BREAKERS
940360	OTHER WOODEN FURNITURE

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

Commodity Code ( 6-digit)	Commodity Code Description
110630	FLOUR,MEAL AND PWDR OF THE PRDCTS OF CHPTR 8
120242	GROUND-NUT, NOT ROASTED OR OTHERWISE COOKED, WHETHER OR NOT SHELLED OR BROKEN-IN SHELLED WHETHER OR NOT BROKEN
120991	VEGETABLE SEEDS USED FOR SOWING
151620	VEGTBL FATS AND OILS AND THEIR FRACTNS
200190	OTHER EDIBLE PARTS OF PLANTS PREPARED OR PRESERVED BY VINEGAR/ACETIC ACID

240110	TOBACCO NOT STEMMED / STRIPPED
240130	TOBACCO REFUSE
240399	OTHR MNFRD TOBACO EXTRCTS AND ESSNCS NES
250100	SALT (INCL TABLE SALT AND DENATRD SALT) AND PURE SODIM CHLRDE W/N AQS SOLN SEA WTR
250810	BENTONITE
251320	EMERY, NATRL CORUNDUM, NATRL GARNET AND OTHR NATRL ABRASIVES CRUDE/IN IRREGULAR PIECES
251400	SLATE W/N ROUGHLY TRMMD/MERELY CUT BY SAW-ING/OTHRWSE INTO BLKS/SLBS OF A RCTNGLR AND SQ SHAPE
252910	FELSPAR
281820	ALUMINIUM OXIDE OTHER THAN ARTIFICIAL CORUNDUM
282090	OTHER MANGANESE OXIDES
282739	OTHER CHLORIDE; NES
282919	OTHER CHLORATES
283110	DITHONITES AND SULPHOXYLATES OF SODIUM
283650	CALCIUM CARBONATE
283660	BARIUM CARBONATE
283990	OTHER SILICATES AND COMMERCL MTL SILICATS
284150	OTHER CHROMATES AND DICHROMATES; PEROXOCHROMATES :
284690	OTHR CMPNDS INORGNC/ORGNC OF RAREERTH MTL SOF YTRIUM/OF SCADM/OF MIXTRS OF THSE MTL
290323	TETRACHLOROETHANE (PERCHLOROETHYLENE ) , UNSATRDT
290543	MANNITOL
290544	D-GLUCITOL (SORBITOL)
291479	
291540	MONO-DI/TRCHLRCTC ACD,THR SLTS AND ESTRS
291619	OTHR UNSATRDT ACYCLC,MONOCRBOXYLC ACDS, THR ANHYDRDS, HALIDES ETC THR HALGNTD SLPHNTD NITRDT/NITRSTD D
291631	BENZOIC ACID ITS SALTS AND ESTERS
291734	OTHER ESTERS OF ORTHOPHTHALIC ACID
291736	TEREPHTHALIC ACID AND ITS SALTS
291815	SALTS AND ESTERS OF CITRIC ACID
291816	GLUCONIC ACID ITS SALTS AND ESTERS
291819	OTHR CRBOXYLIC ACIDS WTH ALCHL FNCTN BUT WTHOUT OTHR OXYGN FNCTN THR ANHYDRDS HALIDES PEROXIDES PEROXYACIDS AND THR
291821	SALICYLIC ACID AND ITS SALTS

291899	OTHER
292151	O-M-P-PHENYLENEDIAMINE DIAMINOTOLUENE AND THEIR DRVTVS SALTS THEREOF
292159	OTHR ARMTIC PLYAMNS AND THR DRVTVS AND SLTS
292250	AMINO-ALCHL-PHNLS AMINO-ACID PHNLS AND OTHR AMINO-COMPOUNDS WITH OXYGEN FUNCTION
292310	CHOLINE AND ITS SALTS
292320	LECITHINS AND OTHER PHOSPHOAMINOLIPIDS
292429	OTHR CYCLC AMIDES(INCL CYCLC CRBAMATES) AND THEIR DERIVATIVES AND SALTS THEREOF
292529	OTHER :
292700	DIAZO-AZO-OR AZOXY-COMPOUNDS
293329	OTHR CMPNDS CNTNG AN UNFUSED IMIDAZOLE RING(W/N HYDROGENATED) IN THE STRUCTURE
293399	OTHER HETERDCYCLIC CMPNDS WITH NITROGEN HETRO ATOM (S) ONLY
293430	CMPNDS CNTNG A PHENOTHIAZINE RING-SYSTEM (W/N HYDRGNTD ) NT FRTHR FUSED
293622	VITAMIN B1 AND ITS DERIVATIVES
293623	VITAMIN B2 AND ITS DERIVATIVES
293690	OTHER, INCLUDING NATURAL CONCENTRATES
293890	OTHR GLYCOSIDES NATRL/RPRDCD BY SYNTHESIS ANDTHR SLTS ETHRS ESTRS AND OTHR DRVTVS
293979	
294190	OTHER : RIFAMPICIN AND ITS SALTS :
300390	OTHR MEDICANTS(EXCL HEADNG 3002,3005,3006)FOR THERAPEUTIC PROPHYLACTIC USES NOT PUT UP FOR RETAIL SALE
300410	MDCMNTS CNTNG PENCLLNS/DRVTVS THROF WTH A PENCLLNC ACID STRCTR/STRPTMYCNS OR THR DERVTVS PUT UP FOR RTL SALE
300450	OTHER MEDICAMENTS CONTAINING VITAMINS OR OTHER PRODUCTS OF HEADING 2936 :
300660	CHMCL CONTRACEPTIVE PRPNS BASED ON HORMONES/SPERMISIDES
320210	SYNTHETIC ORGANIC TANNING SUBSTANCES
320413	BASIC DYES AND PRE PARATIONS BASED THEREON
320420	SYNTHETIC ORGANIC PRDCTS OF A KIND USED AS FLUORESCENT BRIGHTENING AGENTS
320500	COLR LAKES
320620	PIGMNTS AND PRPTNS BASD ON CHROM COMPND
320710	PREPRD PIGMNT OPACIFIER COLRS,SMLR PRPTNS



321290	OTHR PIGMNTS DYS AND CLRNG MATR
321519	OTHER PRINTING INK
330290	OTHER: MIXTURES OF AROMATIC CHEMICALS AND ESSEN- TIAL OILS AS PERFUME BASE:
330610	DENTRIFRICES
340111	SOAP AND ORGNC SURFACE ACTV PRDCTS ETC FOR TIOLET USE (INCL MEDICATED PRDCTS)
340211	ANIONIC W/N FOR RTL SALE
340219	OTHR ORNGC SRFCE-ACTV AGNTS W/N FOR RTL SL
340490	OTHER ARTFCL WAXES AND PRPD WAXES
350211	DRIED (EGG ALBUMIN )
350300	OTHER ALBUMINATES AND OTHER ALBUMIN DRVTVS GEL- LATIN DRVTVS;ISINGLASS; OTHER GLUES OF ANML ORIGIN,EXCL CASEIN GLUES OF HD
380891	INSECTICIDES
380892	FUNGICIDES:
380893	HERBICIDES, ANTI-SPROUTING PRODUCTS AND PLANT- GROWTH REGULATED:
381190	OTHER PREPARED ADDITIVES ANTI-CORRSIVE PRPNS AND OTHR PRPD ADDITVS
381210	PREPARED RUBBER ACCELERATORS
381511	SUPPRTD CATALYSTS WTH NICKEL/NICKEL CMPNDS
381600	REFRACTORY CEMENT-CORTARS-CONCRETES AND SMLRCMPSTNS OTHR THN PRDCTS OF HDG NO. 3801
382410	PRPD BINDERS FOR FOUNDRY MOULDS/CORES
390120	POLYETHYLENE HVNG A SPCFC GRVTY 0.94 /MORE
390761	
391400	ION EXCHANGERS BASED ON POLYMERS OF HEADING 3901 TO 3913, IN PRIMARY FORMS
392049	OTHR PLTES SHTS OF POLYMR OF VINYL CHLORID
392069	PLTES SHTS ETC OF OTHR POLYESTERS
392190	OTHR PLTS,SHTS,FILM FOIL,STRIP ETC,NONCLLR
400211	LATEX (SBR/XSBR)
400821	PLTS SHTS STRPS OF NON-CELLULAR RUBR
400829	OTHR OF NON-CELLULAR RUBBER
400921	TUBES,PIPES AND HOSES OF VULCNSD RUBR REIN- FORCED/OTHRWSE CMBND ONLY WTH METAL MATERIALS WITHOUT FITTINGS
401120	NEW PNMTC TYRES USED ON BUSES/LORRIES
401310	INNER TUBES OF MTR CARS (INCL STATION WAGONS AND RACING CARS) BUSES /LORIES
401320	INNER TUBES OF RUBBER USED ON BICYCLES

401410	SHEATH CONTRACEPTIVES
401699	ARTCLS OF VULCANISED RBR EXCL HRD RBR NES
420211	TRUNKS,SUIT-CASES VANITY-CASES SCHOOL SATCHELS AND SMLR CONTNRS WITH OTHR SRFCE OF LTHR/COMPSTN LTHR/PATENT LEATHER
420329	GLOVS,MITNS AND MITS DESGND FR OTHR USE
441194	OF A DENSITY NOT EXCEEDING 0.5 GM/CM 3 :
481099	OTHR COATED PAPR AND PPRBRD (NOT MLTIPLY)
481149	OTHR GUMMED OR ADHESIVE PAPR AND PAPRBORD
482010	REGISTRS ACCT/NOTE/ORDR/RECPT BOOKS LETR/ MEMO PADS DIARIS AND SMLR ARTCLS OF PAPR
482390	OTHRARTCLS OF PAPR PULP PAPRBORD CELULOSE WADNG OR WEBS OF CEL FIBRS
500710	WOVEN FABRICS OF NOIL SILK
500790	OTHER FABRICS
511230	OTHER, MIXED MAINLY OR SOLELY WITH MAN- MADE STAPLE FIBRES :
520420	COTTON SWNG THREAD PUT UP FOR RETAIL SALE
520512	SNGL YRN OF UNCMBD FBRS MEASURING<714.29 BUT >= 232.56 DCTX(> 14 BUT <=43 MTRC NO)
520522	SNGL YRN OF CMBD FBRS MEASURNG<714.29 BUT >= 232.56 DCTX(>14 BUT <=43 MTRC NO)
520532	MLTPL(FLDDED)/CBLD YRN OF UNCMBD FBRS MEASURNG<714.29 BUT >=232.56 DCTX (> 14 BUT <= 43 MTRC NO PER SNGL YAR
520812	COTN FABRCS CONTNG >=85% BY WT OF COTN UNBLEACHD PLAINWEAVE WEIGING > 100 G/M2
520851	COTN FABRICS CONTNG >=85% BY WT OF COTN PRINTED PLAIN WEAVE WEIGNG <=100 G PER SQM
520852	COTN FABRICS CONTNG >=85% BY WT COTN PRINTED,PLAIN WEAVE WEIGHING >100 G/M2
520859	OTHR COTN FABRICS CONTNG>=85% BY WT OF COTN,PRNTD,WEIGHING 200 G/M2
521132	MIXED COTTON FABRICS WEIGHING > 200 G/SQM DYED 3/4 THREAD TWILL INCL CROSS TWILL
521141	MIXED COTTON FABRICS OF YARNS OF DIFFERENTCOLOURS WEIGHING > 200 GM/SQM; PLAIN WEAVE
540773	OTHR WOVN FABRCS OF YRNS OF DIFRNT COLORS CNTNG 85% OR MORE BY WT OF SYNTHTC FILMNTS
540781	WOVN FABRCS CNTNG<85% OF SYNTHTC FILMNTS MIXED NAIMLY/SOLELY WTH COTN,UNBLCHD/BLCHD

540782	WOVN FBRCS DYD CNTNG<85% BY WT OF SYNTHTC FILM-NTS MIXED MAINLY OR SOLELY WTH COTTON
540783	OTHER WOVN FBRCS CONT <85% OF SYNTHTC FILMNT MIXD WTH COTN YRN OF DIFF COLOURS
540792	OTHER SYNTHTC WOVEN FABRICS,DYED
550320	STAPLE FIBRES OF POLYESTER NT CRD/CMBD
550951	OTHR YARN OF POLYSTR STPL FIBRS MIXED MAINLY/SOLELY WITH ARTIFICIAL STAPLE FIBRS
551429	OTHER WOVEN FABRICS WHICHEVER IS HIGHER
551443	OTHER WOVEN FABRICS OF POLYESTER STAPLE FIBRES METRE, WHICHEVER IS HIGHER
551511	FBRCS OF POLYESTR STPL FBRS,MXD MAINLY OR SOLELY WTH VISCOSE RAYON STPL FBRS
551513	FBRCS OF POLYESTR STPL FBRS MXD MAINLY/ SOLELY WTH WOOL/FINE ANIML HAIR
551519	FABRICS OF POLYESTR STPL FBRS MIXD MAINLY OR SOLELY WITH OTHR FIBRS
560121	WADDING;OTHR ARTICLES OF WADDING OF COTTON
560312	MAN-MADE FILMNT WGHNG>25G /SQM
560749	OTHR CORDGE ETC OF POLYETHLN/POLYPROPYLN
560811	MADE UP FSHNG NETS OF MAN-MADE TXTL MATRLS
570190	CRPTS AND FLR CVRNGS KNOTTD OF OTR TXTL MTRL
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
570500	OTHER CARPETS AND OTHER TEXTILE FLOOR COVERINGS, WHETHER OR NOT MADE UP:
580137	WARP PILE FABRICS OF MANMADE FIBRES
580410	TULLES AND OTHER NET FABRICS
580639	OTHR NARROW WVN FBRCS OF OTHR TXTL MATRLS
580890	ORNMNTL TRMMNGS, TASELS,POMPONS AND THE LIKE
590110	TEXTILE FABRICS COATED WTH GUM/AMYLACEOUS SUBSTANCES USED FOR OUTER BOOK COVERS
590310	FBRCS,IMPRGNTD,COATD,CVRD/LAMNTD WITH PVC
600621	OTHR KNITED OR CROCHETD FBRCS OF COTTON , UNBLCHD OR BLCHD
610342	TROUSERS,SHORTS ETC OF COTTON
610413	SUITS OF SYNTHETIC FIBRES
610429	ENSEMBLES OF OTHER TEXTILE MATERIALS
610442	DRESSES OF COTTON
610443	DRESSES OF SYNTHETIC FIBRES

610469	TROUSERS,BIB AND BRACE OVERALLS,BREECHES AND SHORTS OF OTHER TEXTILE MATERIALS
610610	BLOUSE ETC OF COTTON
610690	BLOUSES ETC OF OTHR TEXTILE MATERIALS
610711	UNDERPANTS AND BRIEFS OF COTTON
610719	UNDRPNTS AND BRIEFS OF OTHR TEXTILE MATRLS
610721	NIGHTSHIRTS AND PYJAMAS OF COTTON
610791	BATHROBS DRESSING GOWN ETC.OF COTTON
610821	BRIEFS AND PANTIES OF COTTON
610831	NIGHTDRESSES AND PYJAMAS OF COTTON
610910	T-SHIRTS ETC OF COTTON
611120	BABIES'GARMENTS ETC OF COTTON
611529	OF OTHER TEXTILE MATERIALS:
611599	OTHER HOSIERY OF OTHER TEXTILE MATERIALS
620199	OTHR SMLR ARTCLS OF OTHR TEXTL MATERLS
620319	SUITS OF OTHER TEXTILE MATERIALS
620413	SUITS OF SYNTHETIC FIBRES
620422	ENSEMBLES OF COTTON
620429	ENSEMBLES OF OTHER TEXTILE MATERIALS
620442	DRESSES OF COTTON
620443	DRESSES OF SYNTHETIC FIBRES
620444	DRESSES OF ARTIFICIAL 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 MATRALS
620461	TROUSERS,BIB AND BRACE OVERALLS,BREECHES AND SHORTS OF WOOL OR FINE ANIMAL HAIR
620463	TROUSERS,BIB AND BRACE OVERALLS, BREECHES AND SHORTS OF SYNTHETIC FIBRES
620469	TROUSERS,BIB AND BRACE OVERALLS,BREECHES AND SHORTS OF OTHER TEXTILE MATERIALS
620520	MEN'S OR BOYS' SHIRTS OF COTTON
620630	BLOUSES,SHIRTS AND SHIRTS-BLOUSES OF COTTON
620640	BLOUSES,SHIRTS ETC OF MAN-MADE FIBRES
620690	BLOUSES,SHIRTS ETC OF OTHR TXTL MATERIALS
620822	NIGHTDRESSES AND PYJAMAS OF MAN-MADE FIBRES
620829	NIGHTDRESSES AND PYJAMAS OF OTHR TXTL MATRLS
620892	OTHER SMLR GARMENTS OF MAN-MADE FIBRES
620930	BABIES GRMNTS AND CLOTHNG ACCESS OF SYN FIBR
620990	BABIES GARMENTS AND CLOTHING ACCESSORIES OF OTHER TEXTILE MATERIALS

621149	OTHER GARMENTS OF OTHER TEXTILE MATERIALS
621600	GLOVES,MITTENS AND MITTS
630231	OTHER BED LINEN OF COTTON
630260	TOILET LINEN AND KITCHEN LINEN,OF TERRY TOWEL-LING/SIMILAR TERRY FABRICS,OF COTN
630493	OTHER FURNISHING ARTICLES OF SYNTHETIC FIBRES,NOT KNITTED OR CROCHETED
640351	ANKLE CVRD FTWEAR WTH OUTR SOLES OF LTHR
640391	OTHER ANKLE COVERED FOOTWEAR
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
680299	OTHER STONE
681011	BUILDING BLOCKS AND BRICKS
681293	COMPRESSED ASBESTOS FIBRE JOINTING, IN SHEETS OR ROLLS
681381	BRAKE LININGS AND PADS
681410	PLATES SHEETS AND STRIPS OF AGGLOMERATED OR RE-CONSTITUTED MICA W/N ON A SUPPORT
681599	OTHER ARTCLS OF STONES/OTHR MINRLS
690220	REFRCTORY BRCKS BLOCKS ETC CONTNG BY WT> 50% OF ALUMINA,SILICA/OF MIXTURE OF THESE
690290	OTHR REFRACTROY BRICKS,BLOCKS,TILES ETC
690320	GOODS CONTNG BY WT>50% OF ALUMINA (ALUMINIUM OX-IDE)/OF A MXTR/COMPOUND OF ALUMINA AND OF SIL-ICA(SILICON DI-OXIDE
700420	GLS COLRD THROUGHOUT THE MASS(BODY TNTD) OPACFD FLSHD/HAVNG A ABSRBNT REFLCTNG OR NON REFLCTNG LAYR
701790	OTHR LBRTRY/HYGNC/PHRMCTCL GLSSWARE
711620	ARTICLES OF PRECIOS OR SEMI PRECIOS STONES(NATU-RAL SYNTHETIC/RECONSTRUCTED)
720219	OTHER FERRO-MANGANESE
720299	OTHER FERRO-ALLOYS
722240	ANGLES,SHAPES AND SECTIONS
730411	OF STAINLESS STEEL:
730441	OTHR TUBS,PIPE AND HOLO PROFILE OF CIRCULR CROSS-SECTION OF STAINLES STEEL,COLD DRAWNOR COLD ROLLED
730690	OTHER TUBES,PIPES ETC.OF IRON OR STEEL
730719	OTHER CAST FITTINGS
730721	FLANGES OF STAINLESS STEEL
730791	FLANGES OF OTHER IRON OR STEEL

730792	THRDED ELBWS,BNDS AND SLEVS OF OTHR IRN/STL
730799	OTHR TUBE/PIPE FITTINGS OF OTHR IRON/STL
730840	PROPS AND SMLR EQUIPMENT FOR SCAFFOLDING, SHUT- TERING OR PIT-PROPPING
731029	OTHR TNKS,CASKS AND SMLR CNTNRS OF CPCTY<50L
731589	OTHER CHAIN(EXCL ARTICULTD CHAIN)
731819	OTHER THREADED ARTICLES
731822	OTHER WASHERS
731990	OTHER ARTICLES OF 7319
732010	LEAF-SPRINGS AND LEAVES THEREFOR
732393	OTHR HOUSHOLD ARTICLES OF STAINLESS STEEL
732510	OTHR ARTICLES OF NON-MALLEABLE CAST IRON
732690	OTHER ARTICLES OF HEADING 7326
741521	WASHRS(INCL SPRING WASHRS),NOT THREADED
741820	SANITARY WARE AND PARTS THEREOF
760529	OTHER WIRE OF ALUMINIUM ALLOYS
761510	TABLE, KITCHEN AND HOUSEHOLD ARTICLES AND PARTS POT SCOURERS AND SCOURING OR POLISHING PADS, GLOVES
761699	OTHERS ARTICLES OF ALUMINIUM (OTHERS).
820110	SPADES AND SHOVELS
820310	FILES,RASPS AND SMRL TOOLS
820510	DRILLING THREADING OR TAPING TOOLS
820520	HAMMERS AND SLEDGE HAMMERS
820530	PLANES,CHISELS,GAUGES AND SMLR CUTTING TOOLSFOR WORKING WOOD
820740	TOOLS FOR TAPPING AND THREADING
820890	OTHR KNIVS AND CUTNG BLADES
821220	SAFETY RAZOR BLADES INCLD RAZOR BLADE/BLANKS IN STRIPS
830120	LOCKS OF A KIND USED FOR MOTOR VEHICLS
830241	OTHR MOUNTINGS FITTINGS AND SMLR ARTCLS SUITABLE FOR BUILDINGS
830520	STAPLES IN STRIPS
830621	STATUETS AND OTHR ORNMNTS PLTD WTH PRCS MTL
831110	COAT ELCTR D OF BS MTL FR ELCTRC ARC WLDNG
840490	PARTS OF THE ITEMS OF 840410 AND 840420
841231	LINEAR ACTING (CYLINDERS),PNEUMATIC POWER ENGINES AND MOTORS
841280	OTHER ENGINES AND MOTORS NES
841311	PUMPS FOR DSPNSNG FUEL/LUBRICANTS,OF THE TYPE USD IN FILLNG STATIONS/IN GARAGES

841340	CONCRETE PUMPS
841391	PARTS OF PUMPS
841420	HAND OR FOOT-OPERATED AIR PUMPS
841440	AIR CMPRSRS MOUNTD ON WHELD CHASIS FR TWNG
841989	OTHR MACHINERY,PLANT AND EQUIPMNT OF HDG8419
842111	CREAM SEPARATORS
842119	OTHR CENTRIFUGES,INCL CENTRIFUGAL DRYERS
842320	SCLS FR CNTNUOS WEIGHNG OF GOODS ON CNVEYR
842389	OTHER WEIGHING MACHINERY
842820	PNEUMATIC ELEVATORS AND CONVEYORS
842940	TAMPING MACHINES AND ROAD ROLLERS
843041	SELF-PROPELLED BORING/SINKING MACHINERY
843049	OTHR BORNG / SINKNG MACHINRY NT SELF-PRPLD
843210	PLOUGHS
843221	DISC HARROWS
843280	OTHER MACHINERY :
843290	PRTS OF AGRCLTRL AND HORTCULTRL MACHINERY
843780	OTHER MACHNRY FOR CLNG,SRTNG/GRADNG SEEDS
843890	PARTS OF THE MACHINE OF HEADING 8438
843910	MCHNRY FR MKNG PULP OF FIBRS CLLSC MTRL
844010	BOOK-BINDNG MCHNRY,INCL BOOK-SEWNG MCHNS
844130	MCHNS FR MKNG CARTONS,BOXES,CASES,TUBES, DRUMS/SMLR CONTNRS,OTHR THAN BY MOULDING
844250	PRNTNG TYPE,BLOCKS,PLTS,CYLNDRS AND OTHR PRNTNG CMPNTS;BLCKS,PLTS,CYLNDR AND LTHGRPHC- STONES,PRPRD FR PRNTNG PURPOSES
845590	OTHER PARTS
845819	OTHER HORIZONTAL LATHES
846029	OTHR GRNDNG MCHNS IN WHICH THE POSITIONG IN ANY ONE AXIS CAN BE SET UP TO AN ACCURACY OF AT LEAST 0.01 MM
846599	OTHER MACHINE-TOOLS OF HDG 8465
846610	TOOL HOLDERS AND SELF-OPENING DIE-HEADS
846719	OTHERS PNEUMATIC TOOLS
846820	OTHER GAS-OPERATED MACHINERY AND APPARATUS:
846890	PARTS OF ARTICLES OF HEADING 8468
847290	OTHR OFFICE MACHINES
847410	SRTNG,SCREENING,SEPARATINGANDWASHING MCHNS
847439	OTHR MXNG/KNEADNG MACHINES
847490	PARTS OF MACHNS OF HDG 8474
847720	EXTRUDERS

847920	MCHNRY FR THE EXTRACTIONS/PRPRTN OF ANML/ FIXED VEGETABLE FATS/OILS
847979	OTHER PASSENGER BOARDING BRIDGES EXCL THOSE USED IN AIRCRAFT
848030	MOULDING PATTERNS
848079	OTHR MOULDS FOR RUBBER/PLASTICS
848220	TAPERED ROLLED BEARINGS,INCLUDING CONE AND TAPERED ROLLER ASSEMBLIES
848310	TRNSMSN SHFT(INCL CAM AND CRNK SHFT) AND CRNK
848340	GEARS AND GEARNG,EXCL TOOTHD WHEELS,TRNSMSN ELMNTS PRSNTD SEPRTLY;BALL SCRWS;GEAR BOXSAND SPEED CHNGRS,INCL TORQUE CNVRTRS
848410	GSKTS AND SMLR JOINTS OF MTL SHTNG CMBND WTHOTHR MTRL/OF TWO/MORE LAYRS OF MTL
850211	GENRTNG SETS WTH CMPRSSN IGNTN INTRNL CMBSTN PSTN ENGS(DIESL/SEMI-DIESL ENGS) OF AN OUTPUT NT EXCDNG 75 KVA
850212	GENRTNG SETS WTH CMPRSSN IGNTN INTRNL CMBSTN PSTN ENGS(DSL/SEMI-DSL ENGS)OF AN OUTPUT >75 KVA BUT<=375 KVA
850410	BALLASTS FR DISCHARGE LAMPS/TUBES
850421	LQD DIELECTRC TRNSFRMRS HVNG A PWR HNDLNG CAPACITY NT EXCDNG 650 KVA
850440	STATIC CONVERTERS
850720	OTHER LEAD-ACID ACCUMULATORS
851140	STRTR MTRS AND DUAL PURPOSE STRTR GNRTRS
851230	SOUND SIGNALLING EQPMNT
851420	INDCTN/DIELCTRC FURNACES AND OVENS
851430	OTHER FURNACES AND OVENS:
851490	PARTS OF ARTCLS IN HDNG 8514
853521	AUTMTC CIRCUIT BRKRS FR A VLTG OF <72.5KV
853620	AUTMTC CIRCUIT BREAKERS
853810	BORDS,PANELS,CONSOLES ETC.FR THE GOODS OF HDG NO.8537 NT EQPPD WTH THR APPRTS
854511	ELECTRODES OF A KIND USED FOR FURNACES
870130	TRACK-LAYING TRACTORS
870191	
870193	
870410	DUMPERS DESIGNED FR OFF-HIGHWAY USE
870821	SAFETY SEAT BELTS
870899	OTR PRTSANDACCSSRS OF VHCLS OF HDG 8701-8705
901580	OTHER INSTRUMENTS AND APPLIANCES:



902511	THERMOMETERS, LIQUID-FILLED, FOR DIRECT RDNG
910529	OTHER WALL CLOCKS
940360	OTHER WOODEN FURNITURE
960200	WRKD VGTBL/MNRL CRVNG MTRL AND ARTCLS OF THESE MTRLS; CRVD ARTCLS OF WAX, OF STEARN, OF NTRL GUMS ETC; N.E.S; WRKD UNHRDND
960310	BROOMS AND BRUSHES, CONSTNG OF TWIGS/OTHR VGTBL MTRLS BOUND TOGTHR, WTH/WTHT HNDLS
960810	BALL POINT PENS
960860	REFILLS FOR BALL POINT PENS, COMPRISING THE BALL POINT AND INK RESERVOIR
960910	PNCL AND CRYNS WTH LEADS ENCLSD IN RGD SHTH
961400	SMOKING PIPES (INCLUDING PIPE BOWLS) AND CIGAR OR CIGARETTE HOLDERS AND PARTS THEREOF

## 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.

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

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

$M_{it}$  = country  $i$ 's total imports

$mw_j$  = 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).

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

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

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

$xw_j$  = 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.

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

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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