

Revealed Comparative Advantage from Trade among SAARC Countries: An Empirical Analysis

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Abstract:

The analysis of comparative advantage has been undertaken using the Balassa (1965) index of revealed comparative advantage for six-digit level of Harmonized System (HS) classification. This study analyses the competitiveness and the pattern of trade flows from India to SAARC member countries. Regional integration in SAARC has significantly affected trade patterns, comparative advantage and competitiveness. In the light of evidence, some policy implications are drawn. The present paper has examined India's relative advantage on various commodities with SAARC countries on export and import with the help of relative comparative advantage on export and imports.

Keywords: Revealed Comparative Advantage (RCA), Trade, Specialization, Competitiveness, Balassa Index, Imports, Exports

Introduction:

During and after the great depression of 1930s, developed and developing countries in the world have increased trade restrictions. (Madsen, 2001, pp. 848). There are two approaches with regard to reducing and lifting trade restrictions: One is the reciprocal reduction in trade barriers on a non-discriminatory basis and another is forming groups of nations on a regional basis.

International trade contributes to the growth & development of a country in several ways. Firstly, it increases output and income by warranting greater employment of domestic resources. Secondly, it helps out a country to streamline production portfolio by specializing in the production of goods for which it enjoys a natural comparative advantage over other producing countries. Regional integration has gained strategic importance because members of WTO cannot offer trade related favor to any

country except when they are members of some form of regional integration due to the Most Favored Nation clause.

As the SAARC countries have similar factor endowments, their mutual trade based on product differentiation will result in low unit cost, more efficiency. Therefore, it is important to explore the structure of comparative advantage of India and other SAARC member countries. International trade changed rapidly across the world after the establishment of World Trade Organization (WTO) and subsequent liberalization of trade barriers. Reduction of trade barriers creates competitive pressures and the potential for technology transfer so as to lead to productivity gains and restructuring of an economy toward its comparative advantage. It is therefore expected that trade liberalization in India would have led to changes in the composition of exports so as to reflect India's comparative advantage in the global economy.

Past Studies on RCA in Trade:

Balassa (1977) has undertaken an analysis of the pattern of comparative advantage of industrial countries for the period 1953 to 1971. The concept of revealed comparative advantage (Balassa 1965, 1977, 1979, 1986) pertains to the relative trade performance of individual countries in particular commodities. On the assumption that the commodity pattern of trade reflects the inter-country differences in relative costs as well as in non-price factors, this is assumed to “reveal” the comparative advantage of the trading countries.

Methodology:

In the study we use Balassa’s (1965) Index of relative export performance by country and industry/commodity, defined as a country’s share of world exports of a commodity divided by its share of total world exports. It uses relative exports share of the individual countries to analyse the comparative advantage and therefore, the export potential of an economy. The index for country ‘i’ commodity ‘j’ is calculated as follows:

$$RCA_{ij} = (X_{ij}/X_{wj})/(X_i/X_w)$$

Where,

X_{ij} = ith country’s export of commodity j

X_{wj} = World exports of commodity j

X_i = Total exports of country i

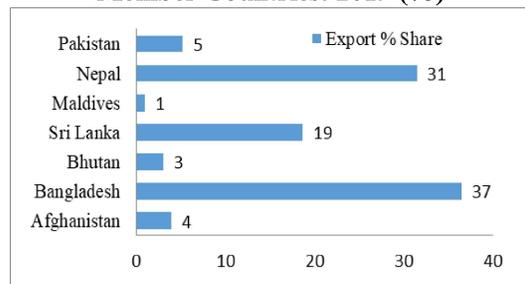
X_w = Total world exports

The index of RCA follows simple interpretation as if a country takes a value greater than the unity; it appears the country has a revealed comparative advantage in that product. The advantage of using the RCA is that it contemplates the intrinsic advantage of a specific export commodity and remains consistent with the change in an economy’s productivity and relative factor endowment. Hence, this paper examined India relative advantage on various commodities with SAARC countries on exports and imports.

India’s Trade with SAARC member countries:

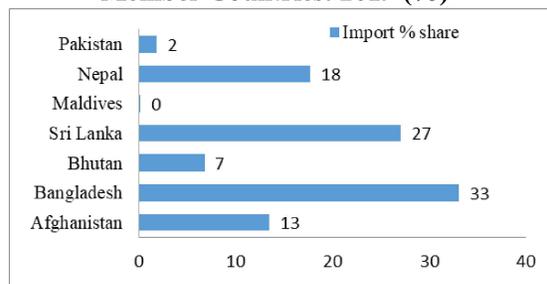
India’s trade with SAARC countries in 2019 along with trade balance and import- export share among SAARC countries is calculated for 2019 and provided into figure 1 and 2. India had highest exports to Bangladesh followed by Nepal. However, India’s imports from SAARC countries were highest from Bangladesh followed by Sri Lanka and Nepal.

Figure 1: India’s Export Share with SAARC Member Countries: 2019 (%)



Source: Computed using WITS (World Integrated Trade Solution) data

Figure 2: India’s Import Share with SAARC Member Countries: 2019 (%)



Source: Computed using WITS (World Integrated Trade Solution) data

India’s trade with SAARC Countries and the World:

Analysis of India’s trade with SAARC countries for over the period of 35

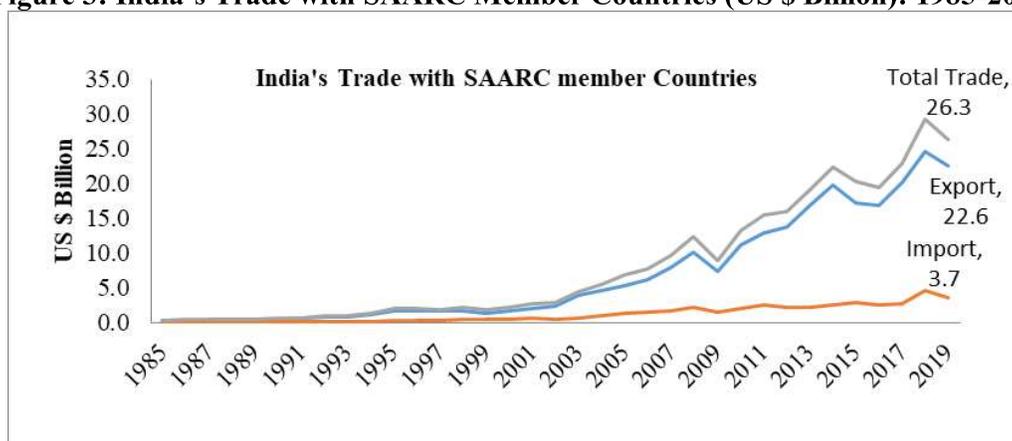
years has been done to observe the emerging trend in figure 3.

India’s total trade has increased from \$US 0.4 billion in 1985 to \$US 2.0

Billion in 1995 to \$US 6.8 billion in 2005 and further to \$US 20.2 billion in 2015 and reached to \$US 26.3 billion in 2019. Trade balance remained positive in favour of India that reflects more exports to the SAARC countries than the import from the SAARC countries. The total trade of the country increased from \$US 0.5 billion during 1985-1990 to \$US 4.5 billion in

2001-05 to \$US 24.5 billion during 2016-19 and this has happened due to fast rise in export to SAARC countries which made possible for positive trade balance in the favour of India. The trade growth rate only for 1996-2000 has been found negative (-2.90%) and highest growth rate is observed in 2001-05.

Figure 3: India’s Trade with SAARC Member Countries (US \$ Billion): 1985-2019



Source: Computed using WITS (Word Integrated Trade Solution) data

Table 1: India’s Trade with SAARC countries (US \$ Billion): 1985-2019 (On 5 years moving average)

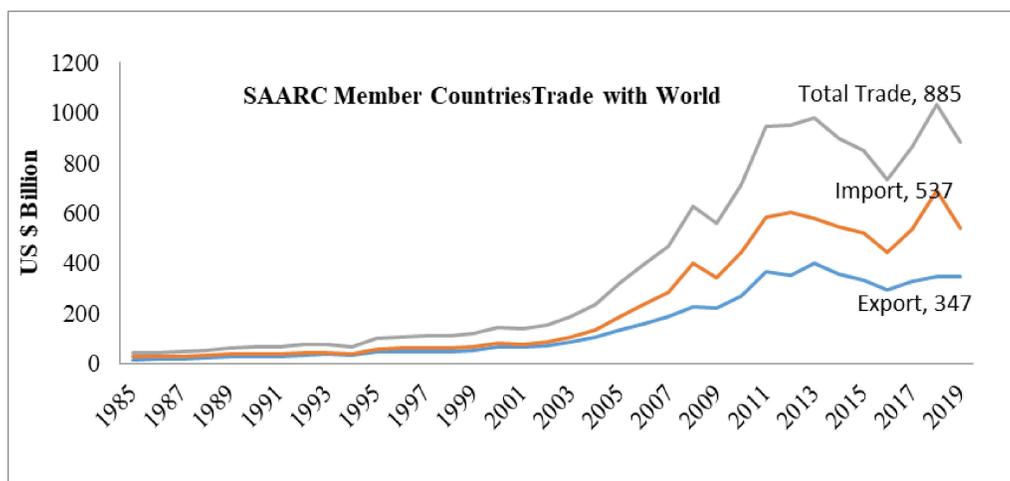
| Year | Export | Import | Total Trade | Trade Balance | Growth Rate |
|-----------|--------|--------|-------------|---------------|-------------|
| 1985-90 | 0.40 | 0.11 | 0.50 | 0.31 | 16.45 |
| 1991-95 | 1.08 | 0.17 | 1.25 | 0.91 | 26.25 |
| 1996-2000 | 1.64 | 0.38 | 2.02 | 1.26 | -2.90 |
| 2001-2005 | 3.67 | 0.80 | 4.48 | 2.87 | 28.52 |
| 2006-2010 | 8.54 | 1.79 | 10.33 | 6.75 | 21.02 |
| 2011-2015 | 16.13 | 2.50 | 18.63 | 13.63 | 10.74 |
| 2016-2019 | 21.08 | 3.40 | 24.48 | 17.69 | 7.77 |

Source: Computed using WITS (Word Integrated Trade Solution) data

Further, it has been calculated on moving year average for total trade along with import and export. SAARC’s total trade has increased from \$US 41 billion in 1985 to \$US 99 Billion in 1995, \$US 320 billion in 2005, to \$US 847 billion in 2015 and

reached to \$US 885 billion in 2019. Moreover, the trade balance remained negative in favour of world that reflected higher value of imports by the SAARC countries than the value of exports to the world.

Figure 4: SAARC Member Countries Trade with World (US \$ Billion): 1985-2019



Source: Computed using WITS (Word Integrated Trade Solution) data

The total trade of the country increased from \$US 51 billion during 1985-1990 to \$US 207 billion in 2001-05 to \$US 879 billion during 2016-19 due to fast rise in imports by SAARC countries resulting in

negative trade balance. The trade growth rate was found positive throughout with high growth in first decade but found declining in the second decade.

Table 2: SAARC-8 Trade with World (US \$ Billion): 1985-2019 (On 5 years moving average)

| Year | Export | Import | Total Trade | Trade Balance | Growth Rate |
|-----------|--------|--------|-------------|---------------|-------------|
| 1985-90 | 20.16 | 30.67 | 50.83 | -10.51 | 8.20 |
| 1991-95 | 34.31 | 41.43 | 75.74 | -7.12 | 10.64 |
| 1996-2000 | 50.96 | 65.69 | 116.65 | -14.73 | 7.89 |
| 2001-2005 | 90.12 | 117.02 | 207.14 | -26.89 | 18.31 |
| 2006-2010 | 211.53 | 339.86 | 551.40 | -128.33 | 18.55 |
| 2011-2015 | 358.91 | 564.89 | 923.80 | -205.99 | 4.42 |
| 2016-2019 | 328.65 | 550.18 | 878.83 | -221.53 | 2.41 |

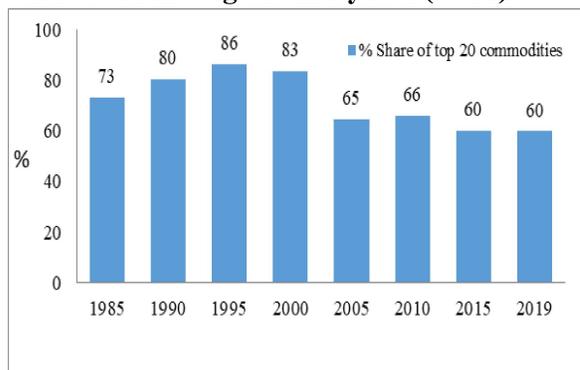
Source: Computed using WITS (Word Integrated Trade Solution) data

India’s Export to SAARC Member Countries between 1985 and 2019:

Figure 5 reveals that there was increasing trend for export of the selected 20 commodities before 2000 but the share of other commodities increased from export to SAARC which resulted into decline in

share of those selected 20 commodities. In 1985, the share of those commodities was 73 percent which increased to a maximum of 86 percent during 1995 but 2000 onwards the share of it declined and floated around 60 percent during the last one decade.

Figure 5: Share of India’s 20 top commodities export to SAARC member countries during various years (In %)



Source: Computed using WITS (World Integrated Trade Solution) data

As per Commodity wise export to the SAARC member countries, it is found that textile, yarn and fabrics remained at the top through the study period although the share varied between 10 to 26 percent during the specified period. It was a maximum of 26 percent in 1995 to low of 10 percent in 2000. The second topmost commodities exported from India were motor vehicles for years 1995 and 2005. The share of motor vehicle varied between 8-10 percent.

Table 3: Top five commodities exported from India to SAARC countries over the period 1985 to 2019

| Year | First | Second | Third | Fourth | Fifth |
|------|-----------------------|------------------------|------------------------|-----------------------|-----------------------------|
| 1985 | Textile Yarn, Fabrics | Motor Vehicles | Machinery Specialized | Coffee, Tea, Cocoa | Veg. & Fruit |
| 1990 | Textile Yarn, Fabrics | Motor Vehicles | Rubber Manuf. | Machinery Specialized | Veg. & Fruit |
| 1995 | Textile Yarn, Fabrics | Cereals & Cereal Prep. | Motor Vehicles | Iron & Steel | Machinery Specialized |
| 2000 | Textile Yarn, Fabrics | Motor Vehicles | Veg. & Fruit | Iron & Steel | Medicinal & Pharma Products |
| 2005 | Textile Yarn, Fabrics | Cereals & Cereal Prep. | Motor Vehicles | Iron & Steel | Veg. & Fruit |
| 2010 | Textile Yarn, Fabrics | Motor Vehicles | Sugars, Sugar Prep. | Iron & Steel | Veg. & Fruit |
| 2015 | Textile Yarn, Fabrics | Motor Vehicles | Cereals & Cereal Prep. | Iron & Steel | Medicinal & Pharma Products |
| 2019 | Textile Yarn, Fabrics | Motor Vehicles | Iron & Steel | Machinery Specialized | Medicinal & Pharma Products |

Source: Computed using WITS (World Integrated Trade Solution) data

Table 4: Percent share of India’s Export to SAARC Member Countries: 1985-2019 (Based on top 20 commodities)

| In % | 1985 | 1990 | 1995 | 2000 | 2005 | 2010 | 2015 | 2019 |
|------------------------|------|------|-------|------|------|------|------|------|
| Cereals & Cereal Prep. | 0.83 | 0.88 | 18.89 | 4.70 | 8.63 | 2.51 | 4.69 | 2.30 |
| Veg. & Fruit | 5.98 | 4.19 | 2.62 | 5.71 | 5.19 | 4.03 | 2.83 | 1.62 |
| Sugars, Sugar Prep. | 0.97 | 0.13 | 1.50 | 3.21 | 0.41 | 6.16 | 1.22 | 1.79 |
| Coffee, Tea, Cocoa | 6.97 | 2.91 | 2.33 | 2.76 | 1.06 | 2.07 | 1.40 | 1.64 |

| | | | | | | | | |
|---|-------|-------|-------|-------|-------|-------|-------|-------|
| Feeding Stuff For Animals | 0.37 | 1.57 | 2.22 | 3.41 | 2.20 | 3.48 | 1.69 | 1.25 |
| Coal, Coke & Briquettes | 2.47 | 0.86 | 1.67 | 1.90 | 1.09 | 0.87 | 0.57 | 0.44 |
| Organic Chemicals | 0.19 | 0.43 | 0.98 | 2.55 | 4.65 | 2.90 | 1.74 | 2.59 |
| Dyeing, Tanning & Coloring Materials | 1.43 | 1.75 | 1.57 | 1.74 | 0.96 | 0.83 | 1.42 | 1.60 |
| Medicinal & Pharma Products | 4.64 | 4.04 | 2.85 | 5.01 | 3.39 | 2.80 | 2.94 | 3.44 |
| Rubber Manuf. | 3.58 | 9.37 | 2.11 | 1.99 | 1.51 | 1.27 | 1.01 | 1.06 |
| Paper, Paper Board | 1.23 | 1.17 | 2.26 | 2.23 | 1.35 | 1.00 | 1.06 | 1.26 |
| Textile Yarn, Fabrics | 15.97 | 26.25 | 21.11 | 19.52 | 9.95 | 14.76 | 13.34 | 11.69 |
| Non Metallic Mineral | 3.70 | 2.89 | 3.40 | 4.14 | 2.28 | 1.56 | 2.08 | 1.88 |
| Iron & Steel | 0.59 | 1.81 | 5.15 | 5.11 | 6.12 | 4.92 | 4.36 | 7.52 |
| Manufactures Of Metals | 2.25 | 1.39 | 0.75 | 2.61 | 1.71 | 1.05 | 1.32 | 2.68 |
| Machinery Specialized | 7.74 | 5.93 | 3.68 | 2.31 | 1.97 | 2.28 | 2.89 | 3.61 |
| Electrical Machry, Apparatus & Appliances | 2.60 | 1.64 | 1.84 | 1.83 | 1.82 | 1.47 | 1.93 | 2.56 |
| Motor Vehicles | 9.53 | 11.61 | 10.18 | 8.59 | 7.55 | 10.07 | 9.99 | 8.28 |
| Articles Of Apparel And Clothing | 0.33 | 0.31 | 0.29 | 1.88 | 1.36 | 0.84 | 1.86 | 1.22 |
| Miscellaneous Manufactured Articles | 1.69 | 1.35 | 0.84 | 2.22 | 1.34 | 1.15 | 1.56 | 1.40 |
| Sum total of 20 commodities | 73.06 | 80.46 | 86.23 | 83.43 | 64.53 | 66.01 | 59.90 | 59.84 |
| Note- Prep: Preparation, Veg: Vegetables, Pharma: Pharmaceuticals, Machry: Machineries, Manuf: Manufactures | | | | | | | | |

Source: Computed using WITS (Word Integrated Trade Solution) data

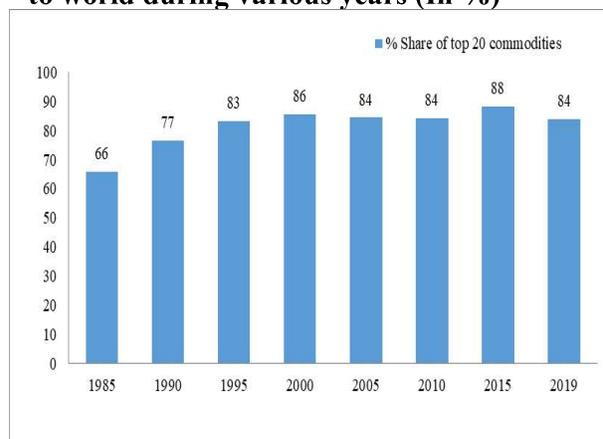
SAARC Member Countries Exports to World:

Figure 6 reveals that there was increasing trend on export of those selected top 20 commodities and found at highest of 88 percent in year 2015. Although share of those selected commodities was continuous on increase from 66 percent in year 1985 to 1986 percent in year 2000 and goes on decline for next 14 years. However, it is notable that in the last 20 years, the share of the selected 20 commodities floated between 80 percent and 88 percent. It happened possibly due to increased share of other commodities export from SAARC countries to the world.

Moving on the commodity wise export from the SAARC member countries to the world, it is found that textile yarn and fabrics remained at the top between first 10 years between 1985 and 1995 followed by articles of apparel and clothing. Moreover,

in 2019, again textile yarn and fabrics placed at the top position within the world SAARC export trade with the world countries.

Figure 6: Share of 20 top commodities export from SAARC member countries to world during various years (In %)



Source: Computed using WITS (Word Integrated Trade Solution) data.

Table 5: Top five commodities exported from SAARC countries to World over the period 1985 to 2019

| | First | Second | Third | Fourth | Fifth | % share |
|------|----------------------------------|----------------------------------|------------------------|-------------------------------------|-------------------------------------|---------|
| 1985 | Textile Yarn, Fabrics | Articles Of Apparel And Clothing | Coffee, Tea, Cocoa | Cereals & Cereal Prep. | Veg. & Fruit | 60.4 |
| 1990 | Textile Yarn, Fabrics | Articles Of Apparel And Clothing | Coffee, Tea, Cocoa | Cereals & Cereal Prep. | Non Metallic Mineral | 71.2 |
| 1995 | Textile Yarn, Fabrics | Articles Of Apparel And Clothing | Cereals & Cereal Prep. | Miscellaneous Manufactured Articles | Sugars, Sugar Prep. | 80.8 |
| 2000 | Articles Of Apparel And Clothing | Textile Yarn, Fabrics | Coffee, Tea, Cocoa | Cereals & Cereal Prep. | Miscellaneous Manufactured Articles | 80.5 |
| 2005 | Articles Of Apparel And Clothing | Textile Yarn, Fabrics | Cereals & Cereal Prep. | Coffee, Tea, Cocoa | Miscellaneous Manufactured Articles | 76.5 |
| 2010 | Articles Of Apparel And Clothing | Textile Yarn, Fabrics | Cereals & Cereal Prep. | Coffee, Tea, Cocoa | Miscellaneous Manufactured Articles | 75.5 |
| 2015 | Articles Of Apparel And Clothing | Textile Yarn, Fabrics | Cereals & Cereal Prep. | Coffee, Tea, Cocoa | Veg. & Fruit | 81.1 |
| 2019 | Textile Yarn, Fabrics | Articles Of Apparel And Clothing | Cereals & Cereal Prep. | Veg. & Fruit | Sugars, Sugar Prep. | 75.4 |

Source: Computed using WITS (Word Integrated Trade Solution) data

The commodity wise share has also been calculated and presented in table 6. Keeping the other commodities which are not included in the analysis, but having shared in total export to world from the SAARC countries, the highest share at the initial period of the study i.e. year 1985 is found for textile yarn & fabrics which shared for 27 percent in the specified year. Moving on the succeeding years, the share of textile yarn & fabrics increased a high of 41 percent in 1995 there after the share decreased and come down to 20 percent in the year 2010. The second highest share is

found for the articles of apparel and clothing which moved to the first position in later years after 1995 and being on the top position till 2015.

Some other observations are the export of cereals and cereals preparation which was between 3-6 percent for most of the year except for the current year of 2019. It is notable that in 2019, the share increased to 11 percent for the first time. It is also notable that the commodities which India exports to SAARC countries, among them some have significant share in the SAARC export to world.

**Table 6: Percent share of SAARC Member Countries Export to World: 1985-2019
(Based on top 20 commodities)**

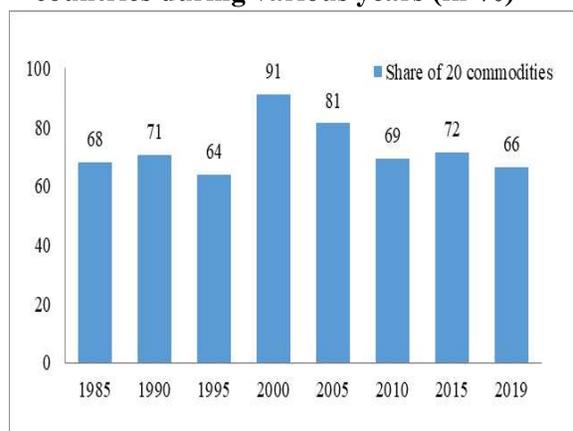
| In % | 1985 | 1990 | 1995 | 2000 | 2005 | 2010 | 2015 | 2019 |
|---|------|------|------|------|------|------|------|------|
| Cereals & Cereal Prep. | 5.8 | 2.7 | 4.1 | 2.7 | 4.0 | 5.0 | 3.8 | 10.6 |
| Veg. & Fruit | 2.4 | 1.5 | 0.5 | 1.2 | 1.3 | 1.7 | 2.2 | 4.7 |
| Sugars, Sugar Prep. | 0.6 | 0.5 | 1.9 | 0.3 | 0.3 | 0.2 | 0.6 | 1.5 |
| Coffee, Tea, Cocoa | 10.4 | 6.4 | 0.4 | 3.9 | 3.0 | 3.4 | 2.9 | 0.8 |
| Feeding Stuff For Animals | 0.3 | 0.1 | 0.0 | 0.1 | 0.1 | 0.3 | 0.3 | 0.4 |
| Coal, Coke & Briquettes | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 |
| Organic Chemicals | 0.1 | 0.1 | 0.0 | 0.2 | 0.5 | 0.4 | 0.5 | 1.3 |
| Dyeing, Tanning & Colouring Materials | 0.1 | 0.0 | 0.0 | 0.0 | 0.2 | 0.1 | 0.1 | 0.2 |
| Medicinal & Pharma Products | 0.1 | 0.1 | 0.3 | 0.3 | 0.4 | 0.4 | 0.4 | 0.9 |
| Rubber Manuf. | 0.1 | 0.3 | 0.0 | 0.6 | 1.0 | 0.9 | 0.9 | 0.1 |
| Paper, Paper Board | 0.2 | 0.0 | 0.0 | 0.1 | 0.2 | 0.2 | 0.3 | 0.3 |
| Textile Yarn, Fabrics | 27.4 | 34.0 | 40.6 | 26.0 | 25.0 | 19.8 | 15.9 | 32.0 |
| Non Metallic Mineral | 0.9 | 2.2 | 0.4 | 1.2 | 1.7 | 2.2 | 1.1 | 1.3 |
| Iron & Steel | 0.4 | 0.0 | 0.0 | 0.0 | 0.4 | 0.9 | 0.3 | 0.3 |
| Manufactures Of Metals | 0.6 | 0.4 | 0.3 | 0.3 | 0.6 | 0.5 | 0.4 | 0.7 |
| Machinery Specialized | 0.4 | 0.2 | 0.3 | 0.3 | 0.1 | 0.2 | 0.1 | 0.2 |
| Electrical Machry, Apparatus & Appliances | 0.1 | 0.1 | 0.1 | 0.4 | 0.5 | 0.6 | 0.5 | 0.2 |
| Motor Vehicles | 0.0 | 0.1 | 0.0 | 0.1 | 0.5 | 0.5 | 0.3 | 0.1 |
| Articles Of Apparel And Clothing | 14.4 | 25.8 | 31.5 | 45.6 | 42.2 | 44.8 | 56.3 | 26.6 |
| Miscellaneous Manufactured Articles | 1.4 | 2.0 | 2.7 | 2.3 | 2.3 | 2.6 | 1.1 | 1.4 |
| Sum total of 20 commodities | 65.7 | 76.6 | 83.2 | 85.5 | 84.4 | 84.3 | 88.1 | 83.9 |

Source: Computed using WITS (Word Integrated Trade Solution) data

India’s Imports from SAARC Member Countries between 1985 and 2019

It is observed in figure 7 that there was an increasing trend for import of the selected 20 commodities before 2000 but the share of other commodities either increased or trade dynamics has changed for import from SAARC countries which resulted in the decline in share of these selected 20 commodities. It is one of the important observations that the till 1995, the trade balance was in favour of India and the trade share difference increased to 23 percent in 1995.

Figure 7: Share of 20 top commodities India Imported from SAARC member countries during various years (in %)



Source: Computed using WITS (Word Integrated Trade Solution) data

In the later years, the opposite happened, which resulted in negative trade balance for India. In the last one decade, India's imports from SAARC countries increased by 6 to 12 percent.

Table 7 presented the top 5 commodities' share in India's total trade was 45-58 percent in last 35 years. In year 1985, its share was 58 percent which reduced to 45 percent in 1995 which further increases and reached to 55 percent in year 2000-2005.

Table 7: Top Five Commodities India Imported from SAARC Member Countries between 1985 and 2019

| Year | First | Second | Third | Fourth | Fifth | % Share |
|------|--------------------------------|------------------------------------|-----------------------|---------------------------------------|--------------------------------------|---------|
| 1985 | Textile Fibres | Vegetables & Fruit | Textile yarn, Fabrics | Cereals and Cereal Preparation | Crude Animal and Vegetable Materials | 57.8 |
| 1990 | Vegetables & Fruit | Textile Fibres | Textile yarn, Fabrics | Metalliferous Ores | Coffee, Tea, Cocoa | 57.9 |
| 1995 | Inorganic Chemicals | Vegetables & Fruit | Textile Fibres | Textile yarn, Fabrics | Iron & Steel | 45.4 |
| 2000 | Vegetables & Fruit | Textile yarn, Fabrics | Essential Oils | Animal/ Veg Fats/ Oils Process/ Waste | Inorganic Chemicals | 55.7 |
| 2005 | Non-Ferrous Metals | Animal/Veg Fats/Oils Process/Waste | Vegetables & Fruit | Textile yarn, Fabrics | Iron & Steel | 55.1 |
| 2010 | Textile yarn, Fabrics | Iron & Steel | Vegetables & Fruit | Coffee, Tea, Cocoa | Nonferrous Metals | 45.4 |
| 2015 | Vegetables & Fruit | Textile yarn, Fabrics | Coffee, Tea, Cocoa | Articles of Apparel & Clothing | Petroleum, Petroleum Products | 46.9 |
| 2019 | Articles of Apparel & Clothing | Vegetables & Fruit | Textile yarn, Fabrics | Coffee, Tea, Cocoa | Iron & Steel | 44.3 |

Source: Computed using WITS (Word Integrated Trade Solution) data

In Table 8, the textile share was on the top in the year 1985 with 17 percent share in total India's import from SAARC countries which reduced and reached to only a mere share of one percent in year 2005. However, in the later years it increased and reached to 4 percent in the year 2019. In the year 2000, vegetables & fruits were at the top with 14 percent share. Although even in 1985, the share of vegetables & fruits constituted 16 percent share in India's total imports from the

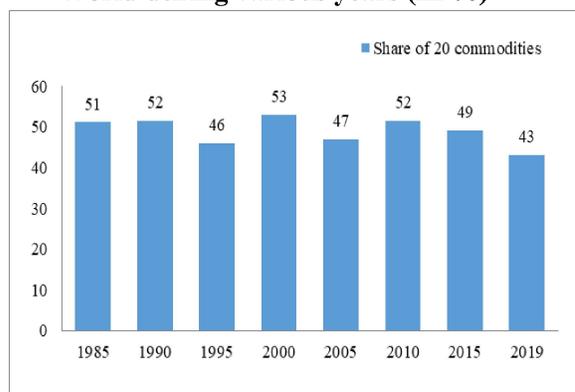
SAARC countries. Even in 2019 it constituted only 10 percent share. The changing share and ranking in the total import happened due to diversification, inclusion of more items within the trade and signing of free trade agreement (SAFTA). Overall, it can be added here that India's import share from SAARC countries are based on articles of apparel & clothing, vegetables & fruits, textiles yarn & fabrics, coffee/tea/cocoa, iron & steel and textile fibres.

Table 8: Share of commodities India Imported from SAARC Member Countries between 1985 and 2019 (%)

| Commodities | 1985 | 1990 | 1995 | 2000 | 2005 | 2010 | 2015 | 2019 |
|---------------------------------------|------|------|------|------|------|------|------|------|
| Cereals and Cereal Preparation | 7.5 | 0.5 | 0.6 | 1.7 | 0.3 | 0.4 | 0.4 | 0.6 |
| Vegetables & Fruit | 16.5 | 26.3 | 13.5 | 13.6 | 10.5 | 10.3 | 16.4 | 10.6 |
| Sugars, Sugar Preparations | 0.0 | 0.0 | 0.6 | 0.9 | 1.2 | 0.0 | 0.1 | 0.2 |
| Coffee, Tea, Cocoa | 3.7 | 5.5 | 2.8 | 4.5 | 5.1 | 6.5 | 7.8 | 5.2 |
| Feeding Stuff for Animals | 4.0 | 1.4 | 0.7 | 0.8 | 0.9 | 3.0 | 2.6 | 3.5 |
| Textile Fibres | 17.0 | 12.1 | 6.6 | 5.3 | 1.3 | 3.1 | 3.7 | 4.1 |
| Metalliferous Ores | 0.2 | 5.8 | 4.1 | 1.6 | 1.5 | 2.2 | 1.1 | 1.9 |
| Crude Animal and Vegetable Materials | 5.3 | 4.9 | 1.8 | 1.7 | 1.3 | 2.8 | 3.1 | 3.7 |
| Petroleum, Petroleum Products | 0.0 | 0.0 | 0.0 | 4.5 | 0.1 | 2.4 | 5.5 | 0.1 |
| Animal/ Veg Fats/ Oils Process /Waste | 0.0 | 0.0 | 0.0 | 11.0 | 12.6 | 0.0 | 0.0 | 2.0 |
| Inorganic Chemicals | 0.0 | 0.0 | 14.8 | 7.1 | 4.6 | 1.9 | 2.3 | 1.1 |
| Medicinal and Pharmaceutical Products | 0.1 | 0.0 | 1.1 | 2.3 | 1.6 | 0.3 | 0.3 | 0.3 |
| Essential Oils | 0.0 | 0.0 | 3.1 | 11.3 | 1.7 | 0.8 | 0.6 | 0.6 |
| Cork and Wood Manufactures | 0.2 | 0.5 | 2.9 | 1.0 | 0.7 | 0.3 | 0.2 | 0.1 |
| Textile Yarn, Fabrics | 11.5 | 8.2 | 5.7 | 12.8 | 9.9 | 12.6 | 11.1 | 10.1 |
| Iron & Steel | 1.3 | 4.8 | 4.8 | 3.3 | 5.6 | 11.3 | 5.3 | 5.1 |
| Non-Ferrous Metals | 0.0 | 0.0 | 0.2 | 3.1 | 16.5 | 4.8 | 1.8 | 1.5 |
| Manufactures of Metals | 0.4 | 0.3 | 0.1 | 0.7 | 2.3 | 0.6 | 0.4 | 0.7 |
| Articles of Apparel and Clothing | 0.0 | 0.0 | 0.1 | 0.9 | 0.9 | 2.3 | 6.0 | 13.3 |
| Miscellaneous manufactured Articles | 0.1 | 0.2 | 0.2 | 2.9 | 2.5 | 3.8 | 2.8 | 1.7 |
| Total share of 20 commodities | 67.9 | 70.6 | 63.7 | 91.0 | 81.3 | 69.3 | 71.6 | 66.3 |

Source: Computed using WITS (Word Integrated Trade Solution) data

Figure 8: Share of 20 top commodities SAARC member countries Imports from World during various years (In %)



Source: Computed using WITS (Word Integrated Trade Solution) data

SAARC Member Countries’ Imports from the World between 1985 and 2019:

It is observed that there was no consistent trend in import by SAARC countries and it floated between 43 percent and 53 percent. During the year 1995, 2005 and 2019, the share is found to be 46 percent, 47 percent and 43 percent respectively. It was highest of 53 percent in year 2000. The low and not consistent trend on import by SAARC countries reveals heterogeneity in need and demand by different countries along with diverse nature of trading behaviour of those SAARC countries. Less share of these selected 20 commodities import from world

reveals possibility of its import from and within the SAARC countries.

In the table 9, out of the total 20 selected commodities, the top five commodities which usually SAARC countries have imported in last 35 years have been presented. The top 5 commodities' share in total trade from the world constituted 39 percent in the year 1985, which gradually declined first then increased again to 38 percent in year 2000. However, after 2000, there was declining trend except for year 2010. In the last decade their shares come down to 33

percent in 2015 and 29 percent in 2019. One possible reason may be the introduction of South Asian Free Trade Agreement (SAFTA). Moving on the commodities, it is notable that petroleum and petroleum products remained at top for SAARC countries import from world in the last 35 years. Its share varied between 13 to 21 percent during the study period. During the first 10 years between 1985- 1995, the second highest share among top 5 commodities was cereals & cereals preparations.

Table 9: Top Five Commodities SAARC Member Countries Imported from World between 1985 and 2019

| Year | First | Second | Third | Fourth | Fifth | % Share |
|------|-------------------------------|--------------------------------|--------------------------------|--------------------|--------------------------------|---------|
| 1985 | Petroleum, Petroleum Products | Cereals and Cereal Preparation | Textile Yarn, Fabrics | Iron & Steel | Textile Fibres | 38.9 |
| 1990 | Petroleum, Petroleum Products | Textile Yarn, Fabrics | Cereals and Cereal Preparation | Iron & Steel | Textile Fibres | 36.5 |
| 1995 | Petroleum, Petroleum Products | Textile Yarn, Fabrics | Cereals and Cereal Preparation | Iron & Steel | Textile Fibres | 33.6 |
| 2000 | Petroleum, Petroleum Products | Textile Yarn, Fabrics | Iron & Steel | Textile Fibres | Cereals and Cereal Preparation | 38.1 |
| 2005 | Petroleum, Petroleum Products | Textile Yarn, Fabrics | Iron & Steel | Textile Fibres | Cereals and Cereal Preparation | 33.1 |
| 2010 | Petroleum, Petroleum Products | Textile Yarn, Fabrics | Textile Fibres | Iron & Steel | Cereals and Cereal Preparation | 36.9 |
| 2015 | Petroleum, Petroleum Products | Textile Yarn, Fabrics | Iron & Steel | Textile Fibres | Cereals and Cereal Preparation | 33.4 |
| 2019 | Petroleum, Petroleum Products | Iron & Steel | Textile Yarn, Fabrics | Metalliferous Ores | Textile Fibres | 29.3 |

Source: Computed using WITS (Word Integrated Trade Solution) data

Table 10: Share of commodities SAARC Member Countries Imported from World between 1985 and 2019 (%)

| | 1985 | 1990 | 1995 | 2000 | 2005 | 2010 | 2015 | 2019 |
|---------------------------------------|------|------|------|------|------|------|------|------|
| Cereals and Cereal Preparation | 6.5 | 5.2 | 5.0 | 2.5 | 2.0 | 2.3 | 2.6 | 1.6 |
| Vegetables & Fruit | 1.1 | 1.5 | 1.3 | 1.9 | 1.3 | 1.9 | 2.3 | 1.8 |
| Sugars, Sugar Preparations | 1.2 | 2.5 | 0.4 | 1.7 | 1.8 | 2.2 | 1.0 | 0.5 |
| Coffee, Tea, Cocoa | 2.1 | 1.7 | 1.3 | 1.2 | 0.8 | 0.9 | 1.1 | 1.6 |
| Feeding Stuff for Animals | 0.1 | 0.1 | 0.0 | 0.4 | 0.3 | 0.5 | 1.0 | 0.2 |
| Textile Fibres | 2.5 | 2.8 | 3.4 | 2.6 | 3.4 | 4.0 | 3.2 | 2.5 |
| Metalliferous Ores | 0.6 | 1.0 | 0.6 | 0.5 | 1.4 | 0.9 | 1.2 | 2.8 |
| Crude Animal and Vegetable Materials | 0.3 | 0.4 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 |
| Petroleum, Petroleum Products | 21.0 | 17.1 | 12.4 | 18.3 | 16.0 | 18.7 | 13.5 | 17.6 |
| Animal/ Veg Fats/ Oils Process /Waste | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.3 | 0.4 | 0.7 |
| Inorganic Chemicals | 0.8 | 0.9 | 0.6 | 0.8 | 1.0 | 0.8 | 0.9 | 1.0 |
| Medicinal and Pharmaceutical Products | 1.9 | 2.0 | 2.3 | 2.0 | 1.3 | 1.5 | 1.5 | 1.8 |
| Essential Oils | 0.2 | 0.3 | 0.3 | 0.5 | 0.5 | 0.5 | 0.6 | 0.6 |
| Cork and Wood Manufactures | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.1 | 0.0 |
| Textile Yarn, Fabrics | 4.7 | 7.4 | 9.0 | 11.5 | 7.3 | 8.0 | 9.8 | 3.1 |
| Iron & Steel | 4.2 | 4.0 | 3.8 | 3.2 | 4.5 | 3.9 | 4.2 | 3.3 |
| Non-Ferrous Metals | 1.1 | 1.4 | 1.5 | 1.1 | 1.4 | 1.2 | 1.3 | 0.7 |
| Manufactures of Metals | 1.5 | 1.4 | 1.3 | 1.3 | 1.2 | 1.0 | 1.3 | 1.6 |
| Articles of Apparel and Clothing | 0.1 | 0.2 | 0.6 | 1.2 | 0.8 | 1.0 | 1.2 | 0.2 |
| Miscellaneous manufactured Articles | 1.1 | 1.4 | 1.7 | 2.0 | 1.7 | 1.5 | 1.7 | 1.3 |
| Total share of 20 commodities | 51.1 | 51.6 | 46.0 | 53.0 | 47.0 | 51.5 | 49.2 | 43.2 |

Source: Computed using WITS (Word Integrated Trade Solution) data

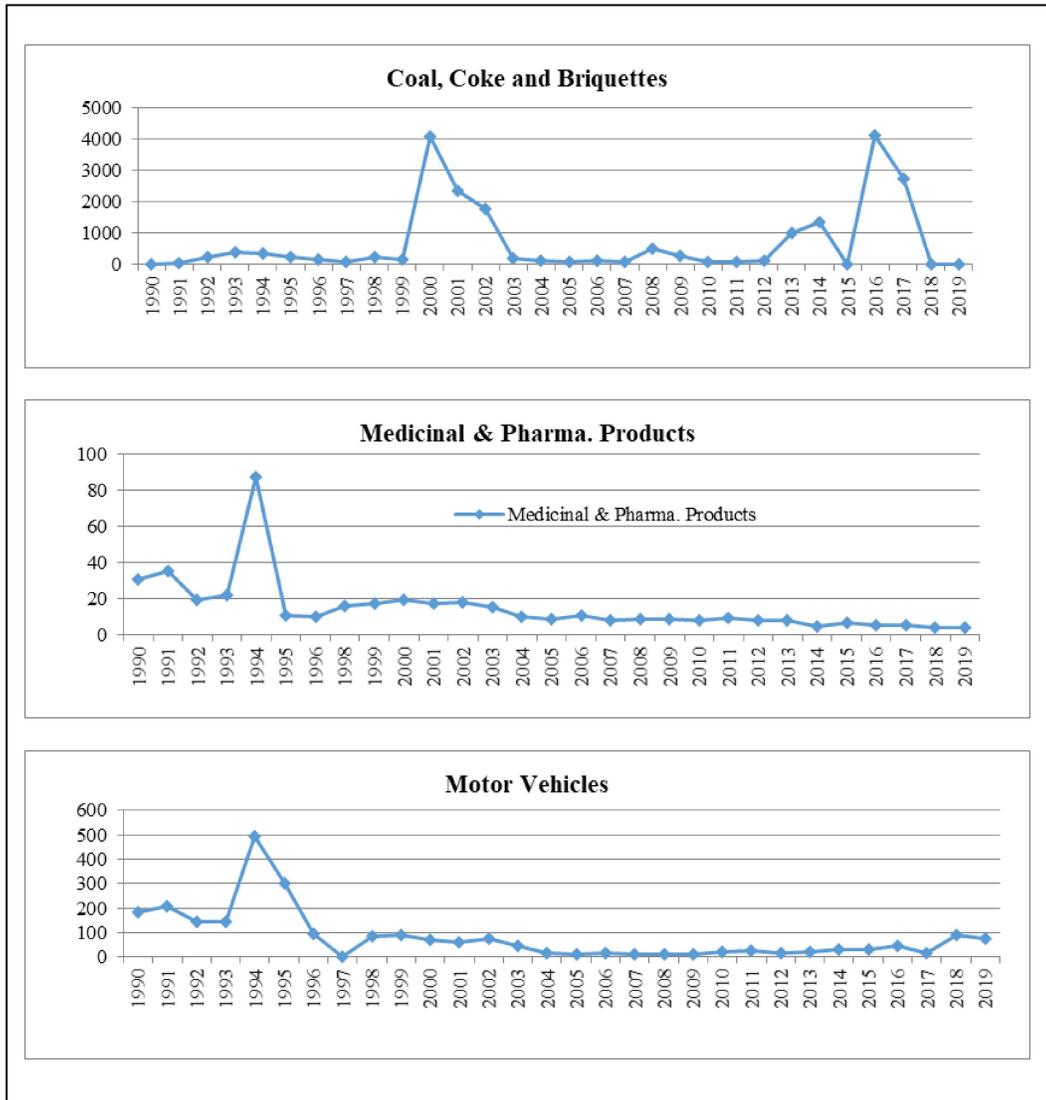
Revealed Comparative Advantage for Exports using Balassa Index:

Reduction in trade barriers creates competitive pressures and switch to possibilities of productivity gains resulting in restructuring of the economy towards comparative advantage. India’s economic reforms in the decade of the 90s have made possible a shift in competitive advantage. It was also expected that the country’s trade liberalization would lead to changes in exports and their composition and reflect India’s comparative advantage in the international trade and global

economy. RCA shows how a commodity is competitive in a country’s exports compared to the commodity’s share in the other countries exports having a lower RCA.

RCA index on export for India since 1985 till 2019, it is observed that in 1985 there were three commodities- ‘Coal, Coke & Briquettes’, ‘Motor vehicles’ and ‘Medicinal and Pharmaceutical products’ having high to very high competitive advantages in exporting to SAARC countries.

Figure 9: Competitive advantages on Export of selected commodities placed at top between 1985- 2019



However, over the period with the changing international trade behaviour, liberalization, and inclusion and licensing more products to be exported, the RCA values seem reduced but still having high competitive advantages in the international market for export to the SAARC countries and can be observed in figure 10.

The very high competitive advantages of ‘coal, coke and briquettes’ during 1985 and later years mainly due to the other SAARC countries were not

having the availability of this ore and minerals in their own country where as India was the largest producer of various qualities of coal at the time. Looking at the Index value of Coal, coke & briquettes at 1985, the value was very high (76811), although over the year the RCA value for coal and allied commodities declined but remained very high for long time. In the other years very high RCA of coal in 1987-88, 2000-02, 2013-14 and 2016-17, floated between 1000 and 4000.

The next commodity that had high competitive advantages in early period of 90s was motor vehicles followed by medicinal & pharmaceutical products. Both these commodities had higher relative advantages during till 1995 after that their export went down resulting in lowering of index values, although for the motor vehicle still the value is beyond 50 but for medicinal & pharmaceutical products it went below 10 in the last decade. In 2019, the RCX value for motor vehicles, medicinal products, electrical, rubber and machinery was 363, 83, 45, 34 & 19 respectively, which shows the India will have competitive advantages in export with SAARC in transportation sector especially for the motor vehicles.

Figure 10: Commodities having high Competitive Advantage on Export from India, 1985

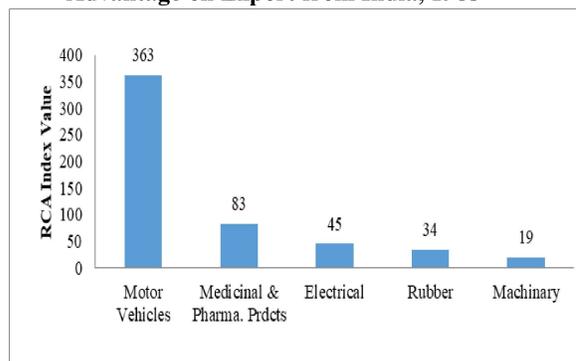
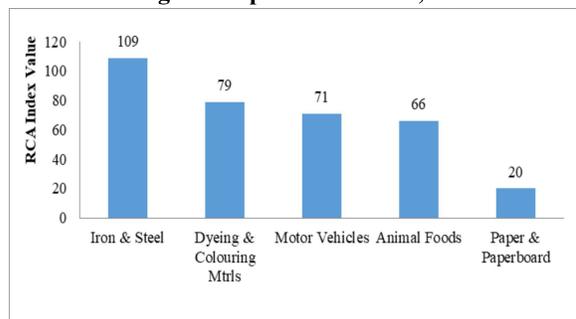


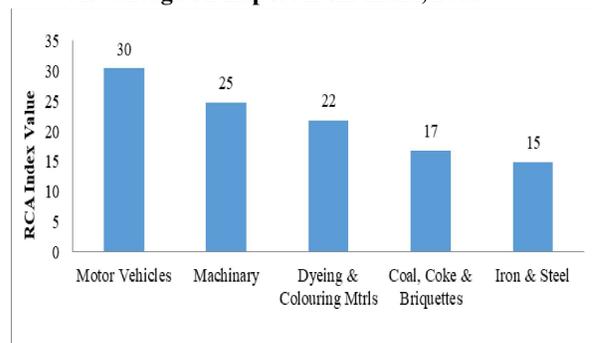
Figure 11: Commodities having high Competitive Advantage on Export from India, 2000



In this segment, we have focused on the top five commodities having highest competitive advantages in different point of time. In 1985, other than the ‘coal, coke &

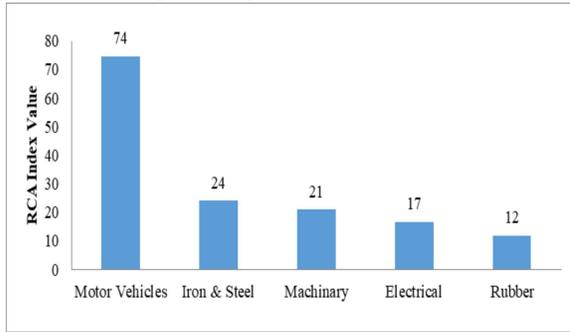
briquettes’, the five top commodities were motor vehicles (363), Medicinal & pharmaceutical products (83), Electrical machinery, apparatus and Appliances (45), Rubber manufactures (34) and Specialized machinery (19). There were the products which were having high production and specialization in India which have put high competitive advantages during the early period. Although in the share terms, there was a very high competitive and can we say as a monopoly of coal within the export products to the SAARC countries. In the year 2000, the scenario of the international trade of India with SAARC countries had changed the top position was replaced by Iron & steel with a score of 190 followed by Dyeing & colouring materials (79). The other three commodities which were place within top five were Motor vehicles (71), Animal foods (66) and Paper & paperboard (20).

Figure 12: Commodities having high Competitive Advantage on Export from India, 2015



In the 2015, the position of motor vehicle changed to first with importance of high rise of transportation sector due to modernization and rise in economic growth in the SAARC countries. This resulting in high demand for motor vehicle that created an opportunity for transportation sector in India.

Figure 13: Commodities having high Competitive Advantage on Export from India, 2019



In the recent years, as the international trade scenario has changed but still motor vehicles found having highest RCA value followed by iron & steel in 2019. The other commodities having highest values were specialized machinery, electrical and rubber. However, there were only 4 commodities having RCA value below the one. These commodities are Coffee, tea & cocoa; Textile yarn & fabrics; Cereals & cereals preparation; and articles of apparel and clothing. Even in the year 2000, the commodities having RCA value below unity were all these commodities of 1985 having RCA values below one excluding cereals & cereals preparation.

Even in the year 2015, the same three commodities lies with RCA value below one. However, in 2019, some other commodities export RCA values gone down below the unity. In this year- textile yarn & fabrics; vegetable & fruits; cereals & cereal preparations; and articles of apparel and clothing found having RCA value below the unity. Overall, the Export of clothing, fabric yarn and articles of apparel & clothing are not having a good sign for India to export it to the SAARC countries because it found at the bottom

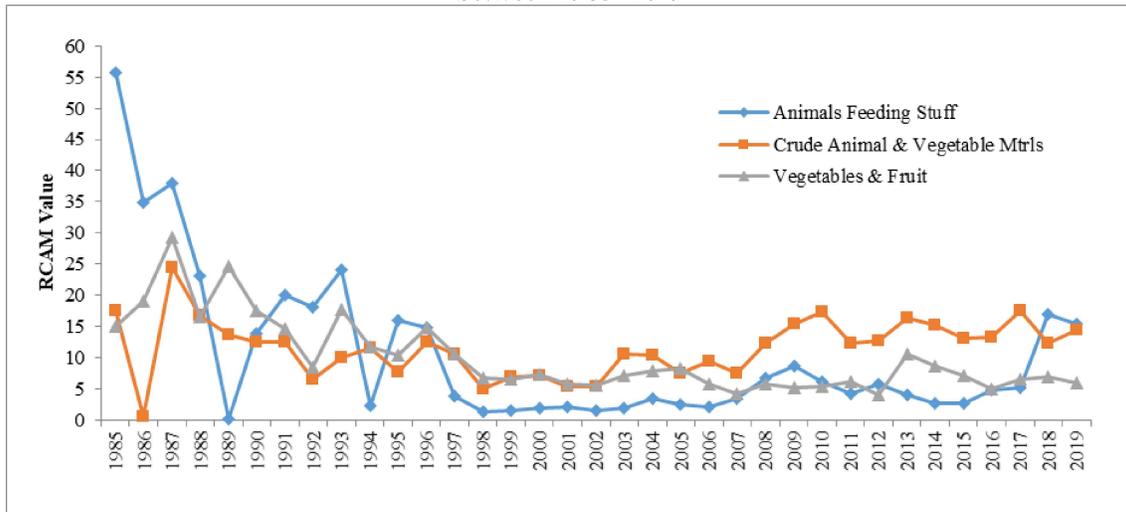
through the last 35 years as during these periods, many rules & regulations has modified and liberalized in international trade domain.

Revealed Comparative Advantage for Imports using Balassa Index:

It is observed that in 1985 there were three commodities- ‘Animal feeding stuff’, ‘Crude animal and vegetables materials’ and ‘vegetables and fruits’ were having high competitive advantages for India in importing from SAARC countries, however over the period with the changing international trade behaviour, liberalization, and inclusion and licensing more products from the SAARC, the RCA values seems reduced but still have high competitive advantages in the international market for import from the SAARC countries can be observed in figure 14.

The next commodity revealed high RCAM value at early period of 90s was crude animal & vegetable materials followed by vegetables & fruit. These both commodities found having high RCAM in initial years till 1990 but later go down with slight variation in it. In case of crude animal and vegetable materials, the RCAM value between 1985 and 1990 was floated to 12-18 except for 1987 when it goes a high of 24. The SAARC countries are large producers of these commodities where their competitive advantages are found better than India. As increasing the RCAM value results into more outflow of money to the SAARC countries. Hence, increasing production for the crude materials of animal and vegetables for India will reduce the RCAM value and reduce the outflow of Indian money.

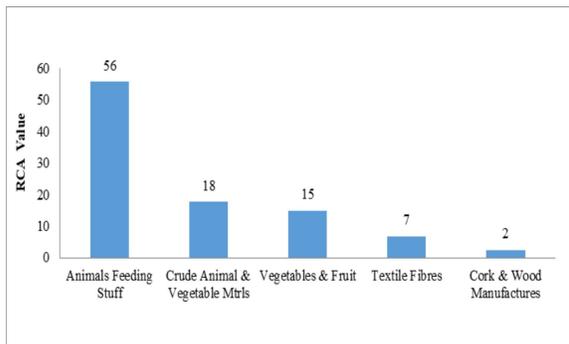
Figure 14: Competitive advantages on Import of selected commodities placed among top three between 1985- 2019



Source: Computed using WITS (Word Integrated Trade Solution) data

The third commodity is found high RCAM value in the later years of 1980 was vegetables & fruit with an index value of 15 which shows not a consistent trend over the study period. In the last decade the import value between 5 and 10 but for most of the year between 2010 and 2019, it floated to 6-7. The declining trend in RCAM value reveals the good sign for the country.

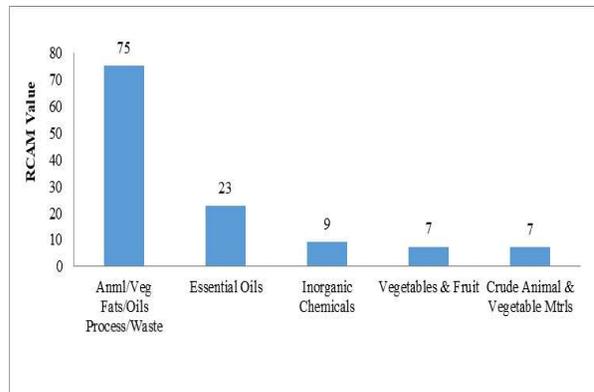
Figure 15: Commodities having high Competitive Advantage on Import from India, 1985



Source: Computed using WITS (Word Integrated Trade Solution) data

production and specialization were not much so the country was more dependent

Figure 16: Commodities having high Competitive Advantage on Import from India, 2000

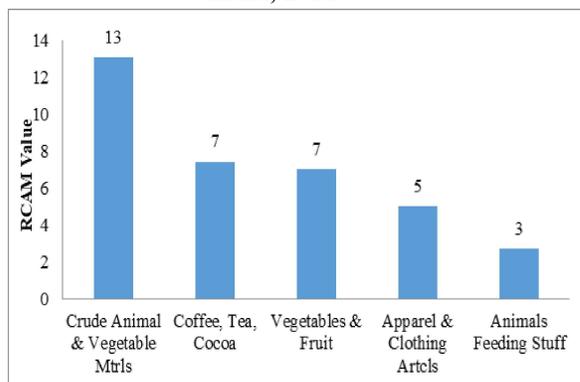


Source: Computed using WITS (Word Integrated Trade Solution) data

In this segment, we have focused on the top five commodities having highest competitive advantages on import for India in different point of time. In 1985, the five commodities having high RCAM values were Animal feeding stuff (56), Crude animal and vegetable materials (18), vegetables & fruit (15), textile fibres (7), and Cork and wood manufacturers (2). These were the products in which India's on other countries and in case of SAARC in the study had better advantages on

exporting them to the India. In the year 2000, the scenario of the international trade of India with SAARC countries had changed the top position was replaced by animal/vegetable fat/oil process/waste placed at the top with score of 75 followed by Essential oils (23) and Inorganic chemical (9). The other three commodities which were place within top five were vegetable and fruit (7), and crude animal and vegetable materials (7). This emerged pattern of international trade with SAARC countries reveals that during the period with the increasing consumption within the country and low production capacity within the countries has pushed to more import. So, it would have been high focus on production of stuffs related to animal, vegetables and fruits had revealed low advantages on import for India.

Figure 17: Commodities having high Competitive Advantage on Import from India, 2015

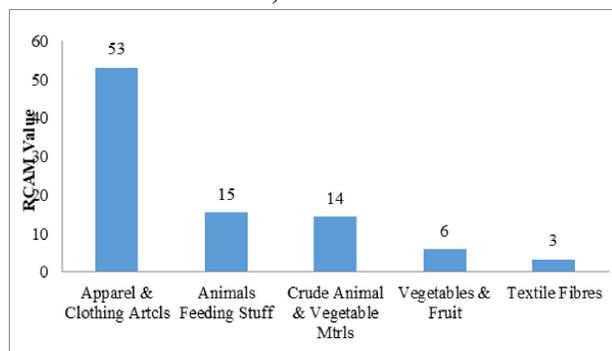


Source: Computed using WITS (Word Integrated Trade Solution) data

In the 2015, the scenario on import has changed and crude animal and vegetables material again placed on the top. However the top five commodities show high RCAM value reveals the heterogeneous nature like coffee, tea and cocoa; apparel & clothing articles came into the picture. In the later year apparel &

clothing materials placed at top with a high RCAM value of 53 in 2019 followed by animal feeding stuff have changed the scenario about the India’s trade on import with SAARC countries.

Figure 18: Commodities having high Competitive Advantage on Import from India, 2019



Source: Computed using WITS (Word Integrated Trade Solution) data

However, if we look at the all 20 commodities, there were only 12 commodities having RCAM value below the one in 1985. Some of them were articles of apparel & clothing; nonferrous materials, animal/vegetable fats/oils process/waste; petroleum & petroleum products; sugar & sugar preparations etc. Even in the year 2000, the commodities having RCAM values below unity were all those commodities of 1985 having RCA values below one excluding cereals & cereals preparation.

Conclusion:

India’s economic liberalization and the subsequent establishment of World Trade Organization (WTO) has drastically reduce international trade barriers that created competitive market which leads to productivity gains and restructuring of Indian economy toward its comparative advantage. The revealed comparative advantage pushed the commodity pattern of

trade on inter-country differences in relative costs to reveal the comparative advantage of the trading countries.

Moving on to the RCA analysis, it notices that the value of RCA index has not remained consistent during the study period. Commodities such as Coal, Coke & Briquettes; Motor vehicles; and Medicinal & Pharmaceutical products found high to very high competitive advantages in exporting to SAARC countries and others found very low competitive advantages during the analysis. The paper also calculated the Revealed Comparative Advantage for Imports (RCAM) index and it found that, India has strong comparative advantage in imports of commodities such as Animal feeding stuff; Crude animal & vegetables materials; and vegetables & fruits during the study period.

Hence, the emerged pattern of international trade with SAARC countries reveals that during the period with the increasing consumption within the country and low production capacity has pushed to more import. So, it would have been high focus on production of stuffs related to animal, vegetables and fruits had revealed low advantages on import for India.

Overall, the paper concluded that there is further scope for growing India's trade with SAARC members because India has favourable trade balance throughout the study period. Hence, effort should be taken to strengthen policy initiative to promote India's trade with SAARC members in near future.

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