STRUCTURAL CHANGES IN COMPOSITION AND DIRECTION OF INDIA'S EXPORTS

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ABSTRACT

On account of economic and trade policy reforms, a structural change has been experienced in India especially after initiation of economic liberalization and creation of WTO in 1995. Further, the aim of foreign trade policies has been to emphasis on manufacturing and service sector economy so as to bring a clear shift in India's exports pattern from primary products to manufactured products. The present paper was aimed to study changes in composition and the direction of India's exports in before & after WTO period. The secondary data was used to achieve the objective of this study. The reference period for making a detail analysis covers 27 years i.e., from 1990-91 to 2016-17. Using percentage and ratio approaches, the direction and composition of exports were examined, taking into consideration yearly and overall period variations in trade flows. Both Excel and SPSS were used to analyse data. Herfindahl-Hirschman Index (HHI) diversification was applied to measure (concentration) of exports. The study indicated a structural change about India's exports. Before 1991, these were comprised of mainly traditional and primary commodities. But, now there is a structural change in the composition of commodities exported from India as they now comprise industrial, engineering and manufactured and processed goods in addition to primary goods.

Keywords: Export Policy, Commodity Share, Structural Change, Agricultural Trade.

INTRODUCTION

The World Trade Organization (WTO) was established in 1995, and it has influenced global trade, including the composition and direction of India's exports. The kind and types of items and services that are either exported or imported from a nation are represented by the composition of its foreign Trade. In 1950-51, the Indian export sector was dominated by primary products which comprised 34 per cent of the total exports. The major products

among them included cashew kernels, black pepper, mica, manganese ore, tea, coal, raw and tanned hides and skins, vegetable oils, raw cotton and raw wool. The intermediate products (such as cotton piece goods, woollen carpets, gums, resins and lac, gunny bag and gunny clothes) has a share of 41 per cent in total exports. The share of manufactured products has increased after independence which increased to 72.9 per cent in 1990-91. However, the export of Leather goods (including footwear) and textiles showed downtrend over the years (Bhat, 2011).

On account of economic and trade policy reforms, a structural change has been experienced in India after independence and it is truer after liberalization. The increasing emphasis on manufacturing and service sector economy has ensured a clear shift in India's exports pattern from primary products to manufactured products. Presently, India's exports cover a wide range of both traditional and nontraditional products. A scrutiny of trade pattern provides that despite increasing contribution of service sector in GDP of India, merchandise exports continue to have an edge in exports. The review of literature also indicates a significant change in so far as the direction of India's exports is concerned. European Union and USA had been the major trading partners of India before independence. This was because of the colonial nature of trade of India as the trade relations were more confined to Britain and other commonwealth countries (Mathur, 2006). However, after initiation of major economic reforms and liberalization move during 1990s and after, the share of East Asian Countries and China has increased significantly. Under the above background that the understanding and a proper examination of the changes in composition and direction of exports from India have become important. It is under above background, an attempt was made to investigate the structural changes in exports from India.

LITERATURE REVIEW

Dhindsa (1981) investigated the primary factors of sluggish export growth in key importing nations. The primary variables impacting these items' of exports were the rising profitability of local sales over international sales, the high export taxes, the growth in domestic demand, the weakening of production and productivity, and the relative increase in production costs. The export performance of the Indian diamond, textile, and software sectors was

studied by Ghomawat and Patibandla (1999). The changes, according to the authors, have helped competitive industries lessen their reliance on inefficient local suppliers and infrastructure. Bhattacharya et al. (2000) showed that Indian exports have shifted to more categories of value-added products. In addition, the study found the increasing demand for knowledge-intensive or capital-intensive products. Verma (2001) analysed exports of the textile and clothing sector before and after the Uruguay Round. The study revealed the favourable effect of the WTO treaty on the textile and clothing industry of India.

Sekhar (2003) examined the potential effects of agricultural trade liberalization on India's rice industry. The findings show that falling income levels in key importing nations have a significant impact on global rice markets. When comparing India's export prices to those of Thailand and Pakistan, the demand functions revealed a significant degree of elasticity. Gems & Jewelry, machinery & instruments, dyes & intermediates, primary & semi-finished iron & steel, oil meal, drugs/pharmaceuticals & fine chemicals, transport equipment, electronic goods, inorganic/organic/agro-based chemicals, and metals manufactures are among the top ten export commodities, according to Sarkar, Amal (2010). Pushpalata Singh (2014) analyzed the trend and structural changes of foreign trade since 1991 and observed that India's total exports have increased after the adoption of the new economic policy in India. Sinha (2016) who analyzed the structural changes in the composition of India's post-reform exports revealed a significant shift in the composition & direction and value of Indian exports. The share of manufactured goods, high value and incremental products, as well as petroleum products increased in the Indian export basket, reflecting the diversification of the Indian economy. Precious stones and iewels were seen at the top. Gupta and Khan (2017) measured the competitiveness of the Indian textile industry by comparing twelve of the major players in global industry. To textile competitiveness, Balassa's international market share and revealed comparative advantage RCA) were applied, along with other useful techniques such as CAGR (compound annual growth rate) and coefficient of variation. The results of this study reveal that India is the country that benefits the most after China after the elimination of the ATC (that is to say on January 1, 2005).

RESEARCH METHODOLOGY

The secondary data was used to achieve the objective of this study. The sources of secondary data include International Trade Statistics; Economic Surveys of India; Annual Reports of Ministry of Trade and Commerce, Govt. of India; Annual Reports of RBI- Currency and Finance; Hand Book of Statistics on Indian Economy; United Nations National Accounts; United Nations Conference on Trade and Development database and WITS database. The reference period for making a detail analysis includes the period from 1990-91 to 2016-17. This tenure was chosen to make an assessment of exports involving both before and after WTO period.

The analysis was made by using statistical tools such as mean, percentage share, ratio, Year-on-year growth, compound annual growth rate(CAGR), independent sample t-test and regression method. The structural variation of exports was investigated with the use of per cent and ratio methods for yearly and overall period. Both Excel and SPSS were used to analyse data. Herfindahl-Hirschman Index (HHI) was applied to measure diversification (concentration) of exports. For measuring the extent of exports diversification, it was worked out by taking square of the market share of exports of each commodity from India and taking sum of these numbers. Mathematically, the procedure is stated as under:

HHI = $s1^2 + s2^2 + s3^2 + ... + sn^2$ (where s is the market share of each export item expressed as a whole number, not a decimal)

HHI range indications are as follows:

Below 0.01	highly competitive
Below 0.1	not concentrated
Between 0.1 to 0.18	low concentration
Above 0.18 to 0.30	moderate concentration
Above 0.30	high concentration

DATA ANALYSIS AND INTERPRETATION

To begin with, India's pattern of exports, during the period 1990-91 and 1994-95 was analysed. It is clear from table 1 that India's share of primary products in country's total exports worked out 23.8 per cent in 1990-91, but it declined to 20.38 per cent in 1992-93 and to 19.8 per cent in 1994-95. However, share of manufactured goods in country's exports the manufactured goods went up from 71.7 per cent in 1990-91 to 77.5 per cent in 1994-95. The above pattern gets further support from CAGR which was worked at 4.8 percent and 11.9 per cent in case of primary products and Manufacture products, respectively during 1990-91 and 1994-95.

Table 2 reveals that share of both components of primary products- agricultural and allied products and ores and minerals registered a sharp decline during the period 1990-91 and 1994-95. Tea had the greatest share of overall exports (3.3 percent) among agricultural and allied items in 1990-91. followed by marine products (2.9 percent) and raw cotton (2.6 percent). Ores and minerals' percentage share fell to 5.3 percent in 1990-91 and 3.8 percent in 1994-95. Minerals and petroleum products' share of the market fell from 2.9 percent in 1990-91 to 1.6 percent in 1994-95. Table 2 further shows that the share of various commodities in the agricultural and allied goods category has staved constant or has changed by 0.1 percentage points. Coffee, tobacco, cashew, spices, meat, and preparations are among these products. Tobacco exports increased by 4.2 percent.

Table 1: India's Exports by Principal Categories (Value in million dollars, Growth Rate and Share in per cent)

YEAR	PRIMARY PRODUCTS		MANUFACTURED PRODUCTS			OLEUM DUCTS	OT	HERS		OTAL PORTS
TEAK	VALUE	% CHANG E	VALUE	% CHANGE	VALUE	% CHANGE	VALUE	% CHANGE	VALU E	% CHANGE
1990-91	4324	11.4	12996	8.6	522	26.7	302	-10.9	18145	9.2
	(23.8)		(71.7)		(2.9)		(1.6)			
1991-92	4132	-4.4	13148	1.2	414	-20.6	170	-43.7	17865	-1.5
	(23.1)		(73.6)		(2.3)		(0.9)			
1992-93	3873	-6.3	14038	6.8	476	14.9	148	-12.9	18537	3.7
	(20.38)		(75.7)		(2.5)		(0.9)			
1993-94	4915	26.9	16656	18.6	397	-16.6	268	81.1	22238	20.0
	(22.2)		(74.9)		(1.8)		(1.2)			
1994-95	5214	6.1	20404	22.5	416	4.8	294	9.7	26330	18.4
	(19.8)		(77.5)		(1.6)		(1.1)			
CAGR	R 4.8		11.9		-5.5		-0.7		9.8	

Data in Brackets represents share in India's total exports

Source: Calculated from data taken from Government of India, Economic Survey (various issues)

Table 2 further shows, during 1990-91, the export growth rate among manufactured goods was found highest in case of textiles, Yarn, Fabric and madeups (24.9 per cent) followed by Leather and manufactures (23.7 per cent), readymade garments (15.4 per cent) and engineering goods (12.6 per cent). As against these items, gem and jewellery, handicrafts and jute manufactures saw negative growth in their exports in the same year to the tune of 8.1 per cent, 7.2 per cent and 6.6 per cent, respectively.

Table 2: Principal Commodities Share of India's Exports and Growth Rate

(In Percent)

	1990)-91	1991	-92	1992	-93	1993	3-94	1994-95	
CO. D. CO. T. T. T. T. C.	GROWTH RATE	% SHARE								
COMMODITIES										
I.PRIMARY PRODUCTS	11.35	23.8	-4.4	23.1	-6.3	20.9	26.9	22.1	6.1	19.8
AGRICULTURAL AND ALLIED PRODUCTS	17.59	18.5	-4.5	17.9	-2.1	16.9	28.4	18.11	4.9	16.1
1.Tea	8.30	3.3	-17.6	2.8	-31.4	1.8	0.1	1.5	-8.0	1.2
2.Coffee	-32.57	0.8	-4.2	0.8	-3.6	0.7	33.9	0.8	92.8	1.3
3.Rice	0.39	1.4	19.1	1.7	9.9	1.8	21.8	1.8	-6.4	1.5
4.Raw Cotton	511.41	2.6	-73.8	0.7	-49.2	0.3	231.8	0.9	-78.6	0.2
5.Tobacco	39.68	0.8	4.2	0.9	7.1	0.9	-10.2	0.7	-44.8	0.3
6.Cashew	12.82	1.4	10.0	1.5	-5.7	1.4	29.3	1.5	18.9	1.5
7.Spices	-21.6	0.7	15.8	0.8	-10.1	0.7	33.6	0.8	7.5	0.7
8.Oil meal	-7.5	1.9	10.2	2.1	42.2	2.9	38.9	3.3	-22.7	2.2
9.Fruits&Vegetables	-2.0	0.7	19.1	0.8	-23.8	0.6	22.4	0.6	5.3	0.5
10.Marine Product	29.6	2.9	9.4	3.3	2.9	3.2	35.2	3.7	38.4	4.3
11.Sugar and Molasses	7.2	0.1	20.5	0.4	91.4	0.7	-53.5	0.3	-65.1	0.07
12.Meat and Meat preparations	14.0	0.4	20.2	0.5	-5.1	0.5	23.6	0.5	16.8	0.5
B.ORES and MINERALS	-5.9	5.3	-4.1	5.2	-20.6	4.0	20.4	4.0	11.26	3.8
I. Iron Ore	4.9	3.2	-0.4	3.3	-34.5	2.1	14.9	2.0	-5.7	1.6
2.Mica	7.8	0.1	-26.3	0.08	-41.9	0.04	6.0	0.03	-19.3	0.02
II.MANUFACTURED GOODS	8.6	71.6	1.2	73.6	6.8	75.7	18.6	74.9	22.5	77.5
Leather and manufacture.	23.7	7.9	-12.4	7.1	0.7	6.9	1.7	5.8	23.9	6.1
Chemical and allied products	9.8	7.2	13.2	8.3	-16.9	6.6	20.3	6.5	32.3	7.4
3. Engineering goods	12.6	12.4	0.1	12.6	10.1	13.4	22.5	13.7	15.5	13.3
4. Readymade garments	15.4	12.3	-1.7	12.3	8.1	12.9	8.1	11.6	26.9	12.5
5.Textile, Yarn, Fabric, Madeups	24.9	8.4	17.2	10.1	5.3	10.3	12.6	9.6	42.3	11.6
6. Jute manufactures	-6.6	0.9	-4.7	0.9	-22.6	0.7	1.1	0.6	21.5	0.6
7. Handicrafts	-7.2	1.9	-1.5	1.3	11.7	1.2	26.0	1.4	11.7	1.4
8. Gems & jewellery	-8.1	16.1	-6.4	15.3	12.2	16.6	30.0	17.9	12.6	17.1
III.PETROLEUM PRODUCTS	24.9	2.9	-20.7	2.3	14.8	2.6	-16.5	1.8	4.8	1.6
IV.OTHERS	-10.9	1.7	-43.7	0.9	-12.6	0.8	80.3	1.2	1.0	1.1
TOTAL EXPORT(Million \$)	181	43	178	65	185	37	222	38	263	30

Source: Calculated from data taken from various issues of Economic Survey, Gove. of India and RBI Bulletin

In the year 1991-92 also, the export growth of textiles, Yarn, Fabric and made-ups worked out the highest (17.2 per cent) among manufactured goods followed by growth rate in export in chemical and allied products (13.2 per cent) and engineering goods (0.1 per cent), whereas the growth rate in export of remaining manufactured items was in negative in this year. However, growth in leather exports remained sluggish and recorded negative in 1991-92. Chemical and allied products saw a negative growth only in 1992-93 among the five year period from 1990-91 to 1994-95. The growth rate in export of majority of the manufactured goods was in double digit both in 1993-94 and 1994-95. In terms of share in total exports,

gem and jewellery, which contributed between 15 per cent to 17 percent during 1990-91 and 1994-95, was ranked at top in each of the year in above mentioned duration. Engineering goods and readymade garments which had more than 12 percent share in total exports, obtained second and third rank, respectively in this respect in the corresponding period Share of chemical and allied in total exports has been fluctuating and it registered 7.2 per cent growth in 1990-91 and 7.4 per cent in 1994-95.

The share of Jute and manufactures has been declining during 1990-91 and 1994-95. The growth in exports of engineering goods—remained positive throughout the period under reference. Thus, the above analysis has

revealed a declining trend of agriculture and allied products, but a substantial increase in the importance of manufactured products. It is also observed that export diversification has been ensured in primary products before WTO period to some extent as the share of most prominent export items (that is tea and

raw cotton) has declined and that of marine products has risen. Not much of export diversification was obtained in manufactured goods as the readymade garments engineering goods and gems and jewellery enjoyed the top three positions between 1990-91 and 1994-95.

Table 3: Share (per cent) of Exports of Principal Commodities (Broad Classification) in Total Exports of India in Post-WTO Regime

Year			Manufactured	Petroleum	Others	Total Exports/	
	Total Primary Products(I)	Agricultural Products	Iron Ore	Goods (II)	Products (III)	Commodities (IV)	All Commodities
1995-96	22.82	19.13	3.70	74.69	1.43	1.06	100.00
2000-01	15.99	13.40	2.59	77.05	4.20	2.76	100.00
2005-06	15.89	9.91	5.98	70.39	11.29	2.44	100.00
2010-11	13.90	9.71	4.19	66.08	16.48	3.55	100.00
2015-16	11.62	10.15	1.47	69.49	11.66	7.22	100.00
2016-17	12.10	10.27	1.83	70.28	11.43	6.19	100.00

Source: Author's calculation based on data obtained from Handbook of Statistics, RBI 2017

The share of the agricultural products in exports, the main component of primary goods, was 19.13 per cent in the year 1995-96 which remained only 9.71 per cent in year 2010-11 and 10.27 per cent in 2016-17. The contribution of manufactured goods in total exports which was 74.69 per cent in 1995-96 increased to 77.05 per cent in 2000-01, but it registered a down trend thereafter and remained only 66 per cent in 2010-11. However, the share of these exports again rose to 70 per cent in 2016-17. Overall, there is declining pattern and the same may be partly attributed to the rising importance of petroleum products in India's exports which had a share of 16 per cent in 2010-11, whereas it was 1.43 per cent in 1995-96. The trend of increasing prices of petroleum product and growth of crude refining facilities in India were the main reasons for rising importance of these products in export profile of the country. However, the percentage

share of petroleum items in exports has declined to 11.3 per cent in 2016-17 owing to deflation in prices of these products in recent three years.

In order to draw a better conclusion, the analysis was also carried out according to share of major commodities in India's export during post-WTO regime (table 4). This analysis indicates that among various agricultural and allied products, the contribution of *rice* was the maximum (4.2 per cent) in exports followed by share of *Marine products* (3.2 per cent), Oil meals (2.2 per cent), other cereals & allied products (2 per cent) and Coffee (1.4 per cent) in year 1995-96. This pattern of share in exports continued till 1998-99 and thereafter other cereals and allied products obtained top rank followed by marine products and rice till 2016-17.

Table 4: Principal Commodity's Contribution to India's Exports during Post-WTO Period
(In per cent)

COMMODITIES	1995-96	1999-00	2000-01	2005-06	2010-11	2014-15	2015-16	2016-17
I. Primary Products	22.8	17.7	16.0	15.9	13.9	11.7	11.6	12.1
A. Agricultural and Allied Products	19.9	15.2	13.5	10.2	9.7	10.3	10.2	10.3
1.Tea	1.1	1.1	1.0	0.4	0.3	0.2	0.3	0.3
2.Coffee	1.4	0.9	0.6	0.3	0.3	0.3	0.3	0.3
3. Rice	4.2	1.9	1.4	1.3	0.9	2.5	2.2	2.1
4.unmanufactured tobacco	0.4	0.5	0.3	0.2	0.3	0.3	0.4	0.3
5.Spices	0.8	1.1	0.8	0.5	0.7	0.8	1.0	1.0
6.Cashewnuts	1.1	1.5	0.9	0.6	0.2	0.3	0.3	0.3
7.Oil meal	2.2	1.0	1.0	1.1	0.9	1.0	0.7	0.8
8.Fruits&Vegetables	0.8	0.6	0.6	0.6	0.4	0.7	0.9	0.9
9.Cereal, Proc. Fruits, juice	0.8	1.3	1.8	1.4	1.3	0.4	0.5	0.5
10. Marine Product	3.2	3.2	3.1	1.7	1.0	1.8	1.8	2.1
11. Meat & its Preparations	0.5	0.6	0.6	0.6	0.8	1.7	1.8	1.6
12.Other Cereals and Allied	2.0	2.2	3.8	2.2	2.6	0.3	0.1	0.1
B. Ores & Minerals	3.2	2.5	2.6	5.2	4.2	1.4	1.5	1.8
I. Iron Ore	1.6	0.7	0.8	3.7	1.8	0.2	0.1	0.6

II. Manufactured Goods	74.7	80.7	77.0	70.3	66.1	63.8	69.5	70.3
A. Leather and Manufacture	5.2	2.6	2.9	1.7	1.5	1.9	2.1	1.9
B. Chemical and Related Products	10.7	12.7	13.2	14.3	11.4	11.4	13.8	13.4
C. Engineering goods	13.8	13.9	15.3	21.0	23.5	23.6	23.0	24.3
.Machinery &instrument	2.6	3.2	3.7	4.7	4.2	4.2	4.2	4.0
.Transport equipment	2.9	2.2	2.4	4.2	4.1	4.2	4.2	5.0
Electronic goods	2.1	1.8	2.4	2.1	3.5	2.0	2.3	2.2
D. Textile And Textile Products	25.2	26.6	25.3	15.9	9.2	11.1	12.7	12.2
1.Cotton Yarn ,Fabric	8.1	8.4	7.9	3.8	4.1	5.2	5.7	5.2
2.Readymade garments	11.5	12.9	12.5	8.3	4.4	5.4	6.5	6.3
3. Jute manufactures	0.5	0.3	0.3	0.2	0.6	0.7	0.7	0.6
E.GEMS & JEWELLERY	16.6	20.4	16.6	15.1	16.0	13.3	15.0	15.7
F.HANDICRAFT	1.3	1.4	1.2	0.3	0.1	0.4	0.6	0.7
III. Petroleum Products	1.4	0.1	4.2	11.5	16.5	18.3	11.7	11.4
IV. Others	1.1	1.5	1.7	1.1	3.6	6.3	7.2	6.2

Source: Calculated from data taken from Government of India, Economic Survey and RBI Bulletin (various issues)

Table 4 further shows that Marine products, rice and other cereals & allied products have remained at the top three ranks among agricultural exports up to year 2009-10, but after this Meat and meat preparation and oil meals contribute more than the cereals and allied products in total exports and this phenomenon continued till 2016-17. contribution of Tea and Coffee towards exports came down from 1.1 per cent and 1.4 per cent in 1995-96 to 0.4 per cent and 0.3 per cent, respectively, in 2005-06 and the same remained almost constant during the last 12 years of study period. Further, the share of various agriculture products in India's exports have declined considerably during the last 10 years except Marine products, fruits and vegetables and Meat and meat preparations which have seen slight increase in their share over recent years.

Regarding the contribution of major manufacturing items in exports, it is clear from table 4 that textile and textile products contributed the maximum (i.e. 20 per cent to 25 per cent) towards India's exports during 1995-96 and 2003-04. Gem and Jewellery products remained at second rank in the corresponding period with their share in exports ranging from 15 per cent to 20 per cent and engineering goods were at third place with their share varying between 13 per cent and 19.4 per cent. However, a compositional change occurred over the years. In the year 2004-05, the share of exports of engineering goods (20.7 per cent) was found more than that of the textile and textile products (16.2 per cent). The role of exports of engineering items and Gem & jewellery kept on increasing gradually over the years and ultimately

stood at 24.3 percent and 15.7 percent respectively, in the year 2016-17. Similarly, petroleum products saw a continuous increase in their share till the year 2013-14 when they contributed around one-fifth toward total exports of the country, but it came down to 11 per cent approximately in 2016-17 due to falling crude prices. In contrast, the share of textile and textile products registered a downward trend in recent decade and the same was found as low as 9.2 per cent in 2016-17. Leather and leather manufactures also indicated a declining trend in so far as their contribution towards total exports is concerned.

But, the same has stagnated at 2 per cent approximately during last fifteen years. The contribution of readymade garments in total exports of India indicated a downward trend immediately after WTO membership which continued till 2006-07 when the same stood at 8.3 per cent as against 11 per cent in 1995-96. However, it remained range bound during 2007-08 and 2016-17 with its share at 6 per cent approximately. The share of *Electronic goods* has fluctuated between 2 per cent to 3 per cent during the entire study period. Thus, in recent years the maximum contribution in total exports came from engineering goods followed, very closely, by Petroleum products and Gem and jewellery.

The export product groups as given in Table 4A represent the highest dollar value in India's export basket in year 2017. Here, it needs mention that the results given in table 4A are according to two-digit Harmonized Tariff System (HTS) code level categorisation.

Table 4 A: Top Ten Export Product Groups in India's Export Basket in 2017

Rank	Commodity name	Value of Exports(\$Bn)	Share(%) in India's Expor	
1	Gems, precious metals	42.6	14.4	
2	Mineral fuels including oil	39.5	12.1	
3	Machinery including computers	16.7	5.6	
4	Vehicles	16,2	5.5	
5	Organic chemicals	13.6	4.6	
6	Pharmaceuticals	12.9	4.4	
7	Iron, steel	11.7	4	
8	Clothing, accessories (not knit or	9	3	
	crochet)			
9	Electrical machinery, equipment	8.8	3	
10	Knit or crochet clothing, accessories	8.3	2.8	

Source: http://www.worldstopexports.com/indias-top-10-exports/ retrieved on 11 November, 2018

It's also worth noting that India's top ten exports accounted for 59.4 percent of the country's total international shipments. Iron and steel was the fastest-growing export category among the top ten, increasing by 81.8 percent in 2017 over 2016. Mineral fuels, including oil, came in second with an increase of 29.5 percent, driven by refined petroleum oils. Indian machinery, including computers, increased in value by 22.8 percent, trailed by a 20.6 percent increase in the value of exported organic compounds. In 2017, exports of two of the top categories were lower than in 2016. Pharmaceuticals, as well as unknit and non-crocheted clothes and accessories, fall within this category.

Table 5: Herfindahl-Hirschman Index (HHI)

Year	HHI Index	Year	HHI Index
1991-92	0.077	2004-05	0.092
1992-93	0.082	2005-06	0.095
1993-94	0.082	2006-07	0.103
1994-95	0.082	2007-08	0.107
1995-96	0.078	2008-09	0.113
1996-97	0.074	2009-10	0.104
1997-98	0.079	2010-11	0.122
1998-99	0.087	2011-12	0.117
1999-00	0.096	2012-13	0.119
2000-01	0.084	2013-14	0.116
2001-02	0.082	2014-15	0.122
2002-03	0.085	2015-16	0.110
2003-04	0.088	2016-17	0.115

Source: Author's calculation based on data obtained from Handbook of Statistics, RBI 2017

Table 5 reveals that the value of HHI has remained approximately 0.1 during the study period both in pre and post WTO regime. Hence, as per this measure the exports from India are not concentrated in few commodities rather these are

properly diversified. However, the value of this index has obtained an upward trend meaning thereby, the export-import policy of the country could not exert its impact on export items. To confirm the growth pattern of HHI, simple regression equation was run with the values of this measure as dependent variable and time as independent variable. The outcome of this analysis as given in table 5A reveals that F value is significant at .01 level of significance meaning thereby the index has changed over the years significantly. Beta value at level 0.02 indicates yearly growth in concentration index which leads to conclusion the diversification has declined during the study period.

The above mentioned results are also getting support from the Rank Dominance Pattern', the other measure used herein to comment on whether a small number of commodities/goods exported from India have been dominating the export basket of the country (tables 6 and 7). Table 6 indicates, five items out of 30, namely Engineering goods, Gem and Jewellery, Readymade garments, Drugs-Pharmaceuticals-cosmetics Cotton/Silk/Woollen Yarn, Fabrics, Madeups, etc., remained present among top 10 export items in each of the 26 years under reference of this study. According to results shown in table 7, the Rank Dominance score of these items clearly dominates the rest of the commodities. Based on RIRD, we can conclude that the probability of top six commodities in terms of their score and presence in top 10 works out as high as 0.75 which means 75 per cent of the time the same six items were included in top 10 export items of India. Interestingly majority of these items belongs to the broader classification item named _Manufactured

goods'. It reaffirms the fact that India's traditional export of Primary sector commodities' have lost

their dominance in exports absolutely over the years.

Table 5A: Model Summary and Parameter Estimates- HHI

Dependent Variable: HHI Index											
Equation		Model Summary Parameter Estimates									
	R Square	R Square F df1 df2 Sig. Constant b1									
Compound	.844	129.448	1	24	.000	.073	1.020				
Exponential	.844	129.448	1	24	.000	.073	.020				

Table 6: Ranking Pattern of Principal Commodities/Goods based on Share in India's Total Exports in Pre and Post WTO Period

	T		ı		10161100		1	1	
Sr.No.	Items	1991-92	1995-96	2000-01	2005-06	2010-11	2013-14	2016-17	Freq. top 10* Ranks
1	Tea	21	8	9	3	5	3	3	1
2	Coffee	4	12	4	2	4	2	5	0
3	Rice	15	24	14	14	12	21	19	9
4	Tobacco	8	1	2	1	6	5	6	0
5	Cashew including Cashew Nut Shell	13	9	12	9	2	4	4	0
6	Spices	7	5	6	6	10	13	14	0
7	Oil Meals	19	21	11	13	13	15	12	5
8	Fruits and Vegetables	6	2	1	7	8	12	13	0
9	Cereal Prep, Process Fruits, Juices, Misce. Processed Items	5	10	10	8	15	6	7	0
10	Marine Products	24	23	23	15	14	16	21	13
11	Meat and Meat Prep.	2	3	5	10	11	18	16	0
12	Other Cereals and Allied Products	18	20	19	20	23	8	1	9
13	Iron Ore	23	14	7	24	19	11	9	7
14	Mica, Coal & Other Ores, Minerals include processed m.	17	18	16	19	22	14	15	2
15	Leather and Manufactures	25	25	25	22	17	19	18	16
16	Drugs, Pharma & Cosmetics	26	26	26	27	27	25	25	26
17	Plastic and Linoleum Products	3	16	17	23	18	20	20	5
18	Ceramic, Rubber, Glass, Paints, Enamels and Pd.	14	17	18	17	16	9	10	2
19	Organic, Inorganic, Residual Chemical & Allied Products	1	4	8	11	9	24	24	6
20	Engineering Goods	28	29	29	30	30	30	30	26
21	Electronic Goods	12	19	20	18	24	22	22	11
22	Cotton/Silk/Woollen Yarn, Fabrics, Madeups, etc.	27	27	27	25	21	23	23	26
23	Manmade Yarn, Fabrics, Madeups etc	16	22	21	16	20	17	17	7
24	Readymade Garments	29	28	28	26	26	26	27	26
25	Jute, coir & Jute Manufactures	10	6	3	4	3	1	2	0
26	Carpets	22	15	13	12	7	7	8	3
27	Gems and Jewellery	30	30	30	29	28	28	29	26
28	Handicrafts (exclude. Handmade Carpets)	11	11	15	5	1	10	11	0
29	Petroleum Products	20	13	24	28	29	29	28	18
30	Others (All Commodities)	9	7	22	21	25	27	26	16

Table 7: Rank Dominance of Composition of Commodities in India's Export during 1991-92:2016-17

Commodity	Presence in Top 10	Score	IRD	RIRD
Engineering Goods	26	242	0.931	0.169
Gems and Jewellery	26	239	0.919	0.167
Readymade Garments	26	187	0.719	0.131
Drugs, Pharmaceuticals & Cosmetics	26	161	0.619	0.113
Petroleum Products	18	131	0.504	0.092
Cotton/Silk/Woollen Yarn, Fabrics, Madeups, etc.	26	128	0.492	0.090
Leather and Manufactures	16	68	0.262	0.048
Others (All Commodities)	16	67	0.258	0.047
Marine Products	13	43	0.165	0.030
Iron Ore	7	27	0.104	0.019
Electronic Goods	11	26	0.100	0.018
Organic, Inorganic, Residual Chemicals and Allied Products	6	24	0.092	0.017
Other Cereals and Allied Products	9	22	0.085	0.015
Rice	9	16	0.062	0.011
Manmade Yarn, Fabrics, Madeups, etc.	7	15	0.058	0.010
Oil Meals	5	10	0.038	0.007
Plastic and Linoleum Products	5	10	0.038	0.007
Carpets	3	7	0.027	0.005
Mica, Coal & Other Ores, Minerals including processed minerals	2	3	0.012	0.002
Ceramic, Rubber, Glass, Paints, Enamels and Products	2	3	0.012	0.002
Tea	1	1	0.004	0.001
			5.5	

Table 8: Model Summary and Parameter Estimates- HGI

Dependent Variable: HGI								
Model Summary Parameter Estimates								
Equation	R Square	R Square F df1 df2 Sig.				Constant	b1	
Compound	.844	129.448	1	24	.000	.270	1.010	
Exponential	.844	129.448	1	24	.000	.270	.010	

India's exports in the pre-WTO and post-WTO eras: Prior to independence, India's primary export customers were the United Kingdom and the United States. According to A. Bhattacharyya (1979), the direction of India's international commerce in the pre-independence period was dictated not by India's comparative advantage, but by the colonial ties between India and Britain. However, since independence, India has explored the possibilities of developing trade relations with other countries, resulting in a decrease in the share

of the two countries mentioned above in India's total exports and an increase in the share of Asia (such as China, Hong Kong, and Singapore) and the OPEC region in India's total exports. Since the start of substantial economic reforms in 1991, India has increased its export market diversity. This section examines variations in the share of India's export destinations in the pre-WTO and post-WTO eras, as well as the amount of export diversification through time.

Table 9: Region/Country-wise Destinations of India's Merchandise Exports before WTO (1960-61 to 1994-95)

(Share in per cent)

					(Snare	in per cent)
	Region/Country	1960- 61	1970- 71	1980- 81	1990- 91	1994-95
1	Total OECD	66.1	50.0	46.6	56.5	58.7
1.1	All EU Countries	36.2	18.4	21.6	27.5	23.7
1.1.1.	Belgium	0.8	1.3	2.2	3.9	3.8
1.1.2	France	1.4	1.2	2.2	2.4	2.2
1.1.3	Germany	3.1	2.1	5.7	7.8	6.6
1.1.4	Netherlands	1.3	0.9	2.3	2.0	3.3
1.1.5	UK	26.9	11.1	5.9	6.5	6.4
1.2	All North American	18.7	15.3	12.2	15.6	20.1
	Countries					
1.2.1	Canada	2.7	1.8	1.0	0.9	1.0
1.2.2	US	16.0	13.5	11.1	14.7	19.1
1.3	All Asia and Oceania	9.0	14.9	10.4	10.4	9.2
	Countries					
1.3.1	Australia	3.5	1.6	1.4	1.0	1.3
1.3.2	Japan	5.5	13.3	8.9	9.3	7.7
1.4	All Other OECD	2.2	1.4	2.4	3.0	2.9
	Countries					
2 2.1	Total OPEC	4.1	6.4	11.1	5.6	9.2
2.1	Indonesia	X	Х	X	0.6	0.6
2.2	Iran	0.8	1.7	1.8	0.4	0.6
2.3 2.4	Iraq	0.5	0.6	0.8	0.1	0.1
2.4	Kuwait	0.5	1.0	1.4	0.2	0.4
2.5	Saudi Arabia	0.9	2.5	1.7	1.3	1.7
2.6	U.A.E.	X	0.4	2.3	2.4	4.8
3	Total Eastern Europe	7.0	21.0	22.1	17.9	4.0
3.1	Russia	4.5	13.7	18.3	16.1	3.7
4	Total Developing countries	14.8	19.8	19.2	17.1	26.7
4.1	All Asian countries	6.9	10.8	13.4	14.4	21.7
4.2	All African	6.3	8.4	5.2	2.2	3.3
	Countries					
4.3	Latin American Countries	1.6	0.7	0.5	0.5	1.5
5	Others /	8.0	2.8	1.0	2.9	1.6
	Unspecified					
	Total[1+2+3+4+5]	100.0	100.0	100.0	100.0	100.0
	Total[1+2+3+4+5]	100.0	100.0	100.0	100.0	

Source: Computed from (1) Reserve Bank of India, Report on Currency and Finance, various issues and Government of India, Economic Survey, 2009-2010, 2011-2012, and 2016-17

Table 9 shows that the percentage of OECD countries in India's export destinations was 66.1 percent in 1960-61, 56.6 percent in 1990-91, and 58.5 percent in 1994-95. In the year 1960-61, the EU received the largest percentage of India's exports (36.2 per cent), followed by North America (18.7 per cent), Japan (5.3 per cent), and Australia (3.5 per cent). In 1994-95, however, the EU's contribution fell to 26.7 percent. In 1990-91, India's exports to the United Kingdom and the United States fell to 6.5 percent and 14.7 percent, respectively, from 26.9 per cent and 16.0 percent in 1960-61. Thus, in 1960-61, the United Kingdom was the most important export destination among EU nations, but its proportion has dwindled over

time. After 1970-71, additional EU members such as Germany, France, Belgium, and the Netherlands became important markets for Indian exports. In contrast to the UK, where the downward trend persisted, the share of exports to the United States increased in 1990-91 and 1994-95. The percentage of African and Latin American nations in India's overall exports has remained relatively stable, at 2.2 percent and 0.5 percent in 1990-91 and 3.3 percent and 1.5 percent in 1994-95. From 198-81, the participation of East European nations, notably Russia, in the country's exports has dropped, with Russia's contribution staying at just 3.7 percent in 1994-95, compared to 18 percent in 1980-81, and East Europe's share of India's exports decreasing to 4 per cent from 17.9 per cent in the same time. The

greatest significant growth in share was seen in the United Arab Emirates, which went from 0.4 percent in 1960-61 to 4.8 percent in 1994-95. On the other hand, throughout the time period under consideration, the percentage of merchandise exports to African nations continued to decline. So,

based on the foregoing data, the developing countries, particularly Asian countries, were the fastest growing destination for India's exports prior to the WTO, followed by OPEC countries, which have also emerged as a significant export destination for India.

Table 10: Region-wise Merchandise Export Performance of India in Post-WTO Regine (in terms of Value and CAGR)

S.No.	Region	1996-1997	1999-2000	2009-2010	2017-2018	1997-2000	2001-10	2011-18	1997-2018
		Value	of Merchandi	Compound Annual Growth Rate (per cent)					
1	EU Countries	8.87	9.67	36.12	53.60	6.4	15.1	2.2	8.9
2	Euro- Free Trade Ass.	0.38	0.41	0.84	1.45	9.9	6.6	6.2	6.6
3	Other Eur Countries	0.21	0.20	1.57	5.21	18.6	23.8	9.3	16.6
4	South Afr. Customs U.	0.32	0.29	2.18	4.04	0.0	21.8	-0.2	12.8
5	Other S. Afri nations	0.08	0.08	1.13	1.59	1.7	31.8	0.7	15.3
6	West Africa	0.32	0.58	3.14	6.72	33.9	13.0	6.6	15.6
7	Central Africa	0.09	0.08	0.35	1.14	-5.7	16.1	13.7	12.7
8	East Africa	0.50	0.47	3.51	6.53	3.6	22.7	2.9	13.0
9	North Africa	0.29	0.41	3.13	4.87	25.1	17.6	2.9	14.4
10	North America	6.99	9.11	21.25	54.17	13.3	9.6	10.1	10.2
11	Latin America	0.40	0.52	5.61	8.61	28.1	25.0	-1.1	15.8
12	East Asia (Oceania)	0.46	0.49	1.69	4.47	3.1	14.3	8.6	11.5
13	ASEAN	2.90	2.24	18.11	34.20	0.1	20.2	4.2	12.5
14	West Asia- GCC	2.42	3.21	30.48	39.39	17.3	26.0	-1.1	14.2
15	Other West Asia	0.66	0.94	5.75	8.99	20.1	18.4	2.1	13.2
16	NE Asia	5.46	5.60	28.90	39.47	4.8	19.5	1.3	9.9
17	South Asia	1.72	1.43	8.39	23.10	4.3	16.9	10.3	13.2
18	CARs Countries	0.02	0.06	0.27	0.36	74.8	16.4	2.7	16.2
19	Other CIS Countries	0.89	1.00	1.42	2.64	3.5	5.1	1.5	5.3
20	Unspecified	0.50	0.05	4.91	2.94	55.4	9.7	-20.5	8.8
	India's Total Export	33.47	36.82	178.75	303.53	10.0	16.9	2.8	11.1

The position of region-wise merchandise exports of India during Post-WTO era can be viewed from tables 10 and 11. The table 10 indicates that exports to EU countries have risen to \$53.6 billion in 2017-18 from \$8.87billion in 1996-97 with a CAGR of 8.9 per cent in this duration. North America imported merchandise worth \$54.17 billion in 2017-18 as compared to \$6.99 billion in 1996-97 from India. So, a CAGR of 10.2 per cent was worked out for exports growth in case of North America. ASEAN too was observed a big market

for Indian goods as exports amounting to \$34.2 billion were made to this region in 2017-18. West Asia attracted exports of \$39.39 billion in 2017-18 as compared to \$14.2 billion in 1996-97. North East also claim for almost similar amount of exports from India in recent years. Exports to South Asia also indicated an impressive growth (CAGR) of 13.2 per cent in Post-WTO period and it attracted \$23.10 billion exports from India in 2017-18.

Table 11: Region-wise Share (in per cent)* of India's Exports in various Sub-periods in Post-WTO Era

S.	Region	1997-	2001-	2006-	2011-	2015-	2016-	2017-	2016-	1997-
no		2000	2005	2010	2015	2016	2017	2018	2018	2018
1	EU Countries	26.8	22.6	21.3	16.6	17.0	17.1	17.7	17.3	21.1
2	Euro- Free Trade Ass.	1.2	1.6	2.5	4.7	4.6	3.7	4.3	4.2	2.7
3	Other Eur Countries	0.6	0.8	1.0	1.4	1.6	1.7	1.7	1.7	1.0
4	South Afr. Customs U.	1.0	1.0	1.5	1.7	1.5	1.4	1.3	1.4	1.3
5	Other S. Afri nations	0.2	0.3	0.5	0.7	0.8	0.5	0.5	0.6	0.5
6	West Africa	1.4	2.1	1.9	2.2	2.3	2.0	2.2	2.2	1.9
7	Central Africa	0.2	0.2	0.2	0.3	0.5	0.4	0.4	0.4	0.3
8	East Africa	1.4	1.3	2.1	2.9	2.8	2.4	2.2	2.5	2.0
9	North Africa	1.1	1.4	1.6	1.7	1.8	1.6	1.6	1.7	1.5
10	North America	22.5	20.3	14.5	13.7	17.2	17.3	17.8	17.5	17.5
11	Latin America	1.4	1.8	2.9	3.9	2.9	2.6	2.8	2.8	2.6
12	East Asia (Oceania)	1.4	1.1	1.0	0.9	1.4	1.2	1.5	1.4	1.1
13	ASEAN	6.7	9.0	10.1	10.9	9.6	11.2	11.3	10.7	9.4
14	West Asia- GCC	8.2	10.2	14.4	15.8	15.9	15.1	13.0	14.7	12.7
15	Other West Asia	2.2	3.5	3.4	3.7	3.0	2.9	3.0	2.9	3.1

16	NE Asia	15.3	14.7	15.5	13.3	11.8	12.5	13.0	12.4	14.4
17	South Asia	4.7	5.6	5.1	5.4	7.1	7.0	7.6	7.2	5.4
18	CARs Countries	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.2
19	Other CIS Countries	2.6	1.5	0.9	0.9	0.8	0.9	0.9	0.8	1.4
20	Unspecified	0.7	1.6	1.2	3.2	1.5	1.5	1.0	1.3	1.9
	India's Total Export	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

*Average of per cent share in various sub-periods

Source: Author's Calculation based on data procured from Ministry of Commerce, Data Bank: http://commerce-app.gov.in/eidb/iecnttopng.asp

Table 11, the highest share of India's exports among 20 regions of the world goes to EU countries. These countries share was as high as 26.8 per cent in 1996-97 which came down to 17 per cent approximately in 2017-18. North America which is the second largest importing region from India has been enjoying between 17 per cent and 22 per cent share in various years. The share of both EU and North America in India's exports has declined significantly over the years. In contrast to EU and North America, the share in exports from India have increased to 11.3 per cent in current year from 6.7 per cent in 1996-97 in case of ASEAN. The trend in case of West Asia resembles to that of ASEAN as their share has increased to 15.9 per cent in 2015-16 from 8.2 per cent in 1996-97. The share of North East Asia has been range

bound between 12 to 15 per cent during last 22 years. South Asia have also claimed between 5 per cent to 7.5 per cent share of India's exports in the duration under reference.

An attempt was also made to examine level of diversification (Concentration) of India's exports according to region. For the above objective, HHI was computed by taking market share data of 20 regions as mentioned in tables 10 and 11. It is clear from the results of HHI as given in Table 12 that exports of India across region have low concentration in case of majority of the years. Moderate level of concentration was observed only in case of four years between 1996-97 and 1999-2000. So, the exports are adequately diversified across region.

Table 12: Herfindahl-Hirschman Index, HHI for Region-wise Share of India's Exports

Year	ННІ	Remarks	Year	HHI	Remarks
1996-1997	0.158	Moderate concentration	2007-2008	0.127	Low Concentration
1997-1998	0.157	Moderate concentration	2008-2009	0.128	Low Concentration
1998-1999	0.167	Moderate concentration	2009-2010	0.127	Low Concentration
1999-2000	0.169	Moderate concentration	2010-2011	0.117	Low Concentration
2000-2001	0.148	Low Concentration	2011-2012	0.115	Low Concentration
2001-2002	0.138	Low Concentration	2012-2013	0.115	Low Concentration
2002-2003	0.146	Low Concentration	2013-2014	0.111	Low Concentration
2003-2004	0.140	Low Concentration	2014-2015	0.111	Low Concentration
2004-2005	0.136	Low Concentration	2015-2016	0.118	Low Concentration
2005-2006	0.138	Low Concentration	2016-2017	0.120	Low Concentration
2006-2007	0.129	Low Concentration	2017-2018	0.121	Low Concentration

Source: Author's Calculation based on data procured from Ministry of Commerce, Data Bank: http://commerce-app.gov.in/eidb/iecnttopnq.asp

CONCLUSION

According to the research, India's export industry has done admirably in the WTO period. According to the research, we used to mostly export traditional and primary goods. However, the mix of items exported from India has changed recently. In addition to basic products, exports increasingly include industrial, engineering, manufacturing, and processed items. Exports of services have also done nicely. This structural shift is achievable as a result

of the Indian government's persistent efforts to industrialise the country since independence under the five-year plan (FYP). However, India's proportion of global merchandise exports is still at 1.7 percent, which falls short of expectations. As a result, it is critical to re-examine the components of Foreign Trade Policy and export promotion measures, and to take corrective action as necessary. There was little export market diversification prior to the WTO, but after the WTO, there was more market diversity as the share

of India's conventional export trade partners dropped and the market of newly emerging Asian developing nations and OPEC countries grew in importance. The HHI data showed that India's exports across the area had a low concentration in the majority of years, and a moderate degree of concentration in just four years between 1996-97 and 1999-2000. As a result, exports are sufficiently diverse among regions. However, there is still a need to expand the export market, as a country-bycountry examination of exports revealed that the top 30 trade partners account for more than 73 per cent of India's exports. In the WTO period, exports to the top five trade partners, namely the United States, the United Arab Emirates, China, Hong Kong, and the United Kingdom, accounted for about 35-40 per cent of total exports.

The rising prominence of Asian nations as an export destination is a significant characteristic of Indian exports. The proportion of Asian exports has risen significantly. This might be attributed to India's "Look East Policy" and ongoing efforts to strengthen ties with China and the ASEAN. However, there has been considerable stagnation in this area in recent years. As a result, India must strengthen its geopolitical connections in order to achieve its economic objectives with the ASEAN group and other Asian countries. Due to political unrest in these nations, the representation of Eastern European countries, particularly Russia, has decreased. Fortunately, India is in a position to take all necessary efforts to improve relations with these countries. For example, due to the implementation of a policy of focusing on Africa and Latin America markets, the percentage of African and Latin American nations in India's trade has risen in recent years.

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