

Changing Pattern in India's Agricultural Exports under WTO

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ABSTRACT

Agriculture came under the WTO regime in 1995 when Agreement on Agriculture was negotiated. In India, agriculture accounts for about 12% of total exports earnings which implies that uncertainty in the world agriculture market will have a great impact on the whole economy. Several studies have compared the trend of India's agricultural export in the pre and post WTO period but this paper goes a step ahead and apart from comparing the trend, it also brings the commodity wise analysis of agricultural trade in order to have an idea of the changing pattern of trade and most importantly the paper measures the convergence or divergence of agricultural exports over the years through Simpson Index. The study found that in pre WTO period, an attempt was made to achieve specialisation in agricultural exports whereas no such attempt was made in post WTO period. The study concludes that WTO has mixed impact on India's agricultural exports. It has helped India to improve its position in global agricultural exports but it did not allow her to gain expertise in the exports of agricultural products and specialise in the commodity of its comparative advantage.

Keywords: Agreement on agriculture, agricultural exports, comparative advantage, divergence

India is primarily an agrarian economy. Agriculture in India is not only important but also provides the forum for economic development. It is one of the important occupations for the Indian families. It contributes about 16% of total GDP of India and about 12% of total exports. Rising world demand for Indian agricultural commodities present great opportunities. Agriculture sector of India is the backbone of the economy. Though, with the development of other sectors, the share of agriculture in GDP of the country has reduced. But still, Agriculture sector continues to play a leading part in supporting the whole economic situation of India. Agricultural exports of India have increased manifolds. However, the contribution of agricultural exports in the total export of the country has declined. India exports surplus of food and agricultural products. A large portion of India's export trade is based on the agricultural products, such as jute, tea, tobacco, coffee and spices. However, in current year, rice, marine products and spices etc. are playing major role in

agriculture export share. The share of agricultural exports of India in world agricultural exports was around 2.2% in 2015-16. India is ranked 7th in terms of agricultural exports. India exported agricultural products value around 39 billion dollars in 2013.

Agriculture for the very first time came under the WTO regime in 1995 when Agreement on Agriculture (AOA) was created. The objective of the agriculture agreement is to reform trade in the sector and to make policies more market oriented. This would improve predictability and security for importing and exporting countries alike. The Agreement on Agriculture includes commitments in three broad areas: 1. Market Access 2. Domestic Support and 3. Export Competition.

1. Market access i.e., various trade restrictions confronting imports and all non-tariff barriers like import quotas, import licensing etc. should be removed, i.e. opening markets by removing various restrictions on imports.
2. Domestic support

- (a) Aggregate Measure of Support (AMS): it is non-exempted support of two types, i.e. product-specific support and non-product specific support.
 - (b) Green box support: it is an exempted support and include those measures which have minimum effect on trade and production.
 - (c) Blue box support: it is product limiting subsidy for mainly to developed countries.
 - (d) Special and Differential Treatment Box support: (for developing countries) it includes investment subsidy to agricultural sector.
3. Export competition i.e., reducing the subsidies on export operations.

It was expected that various provisions of AOA would bring the developed and developing countries on the same platform and would be benefited from each other and would provide ample opportunities for developing countries to explore their potentials by providing a fair and market oriented trading system.

Agreement on Agriculture (AoA) under WTO gave hopes to the developing nations like India that the opening up of the economy would go a long way in removing inequalities against tradable agriculture. However, the outcome of AoA has not been beneficial to the developing countries as was expected or predicted in early 1990s. Numerous distortions and market access barriers, present in the developed countries have adversely affected the agricultural exports of the developing countries.

Objectives of the Study

The objectives of the study are:

- ♦ to study the impact of WTO on India's agricultural exports
- ♦ to analyse the changing pattern of agricultural exports under the influence of WTO and
- ♦ to find out whether WTO has led to convergence or divergence in agricultural exports.

DATA SOURCE AND RESEARCH METHODOLOGY

The study is based on the secondary sources of data which has been taken from:

1. Ministry of Commerce, Government of India,
2. Handbook of statistics, Reserve Bank of India
3. Economic Survey, various issues
4. World development indicators

Annual data of 26 years spanning from 1990-91 to 2015-16 has been used for analysing the impact of WTO. The study period is divided in two parts: pre WTO period (1990-91 to 1994-95) and post-WTO period (1995-96 to 2015-16). The Compound Annual Growth Rates (CAGR) were computed by using the formula:

$$Y = ab^t e$$

Where,

Y= Dependent variable;

a=Intercept;

b= Regression Coefficient;

t=Time variable;

e= Stochastic term

The above equation can be transformed into logarithmic form as follows:

$$\ln Y = \ln a + t \ln b + e$$

The compound growth rates were worked out as follows:

$$CGR = [\text{Anti Ln of } \ln(b)-1] \times 100$$

Coefficient of variation (CV) was calculated using the formula:

$$CV = \frac{\text{standard deviation}}{\text{mean}} \times 100$$

The diversification in agricultural export is measured by Simpson Index.

$$\text{Simpson Index} = 1 - \sum A_i^2 / A^2$$

Where,

A_i = value of export of i^{th} agricultural product

A = value of export of total agricultural products.

The value of Simpson Index ranges from 0 to 1. A value of 1 indicates total diversification whereas a value of zero indicates perfect concentration of trade towards an individual product.

REVIEW OF LITERATURE

Gulati and Sharma (1994) have focused on various impacts of WTO commitments on Indian agriculture and found that Indian agriculture will not gain much in the open trade environment under the present situation.

Datta's (2000) study outlines India's competitiveness in rice during WTO era and finds that Indian rice is fairly price-competitive and has the potential to improve its competitive strength. India need not worry on the price front nor change her position about imposition of zero import duty on rice. The only consideration India must have during WTO renegotiations is that her rice exports do not become a victim of manipulation.

Yadav Subah (2001), while examining in his study the impact of WTO on Indian agriculture, gave unique thought of Agreement on Agriculture (AOA) on various related aspects. He realizes a strong need to create appropriate policies to safeguard the instantaneous and long term interest of farmers. In the last, he conclude that trade policies should incorporate with agricultural aspects in depth in order to encourage larger investment in areas of production where we have comparative advantage.

Nagoor (2005) examined the growth performance of India's agriculture export during 1990's. He found that developing countries like India must form a group of an association to face international competitiveness. He also found that India is losing its comparative advantage in agriculture sector which for policy makers and planner is a key issue of concern.

Satish Y Deodhar (2006) analysed the scenario of Indian agricultural trade in the background of Agreement on Agriculture and tried to find out the possibilities where it could improve. The study found that in the presence of imperfectly competitive export structures, the increment in terms of trade for Indian agriculture might not be high enough and whatever slight improvement may occur in the terms of trade, it would have either negative or a very little effect on farmers' wellbeing.

Shinoj P *et al.* (2008) examined the comparative advantage of India in agricultural export in comparison with Asia in the post reform period from 1991 to 2004. India has been able to maintain comparative advantage in commodities like cashew

and oil meals, but tea, coffee, spices, marine products have been negatively affected.

Sunil Kumar Niranjana (2016) analysed the pattern of exports and imports of agricultural commodities of India since 1995. He found that the international prices of agriculture commodities are low due to heavy subsidies provided to the farmers of developed countries which negatively affects the agriculture export of India. In the last, author concluded that India is not getting benefit of trade liberalization in agriculture sector.

Dubba Ranjith (2016) in his study examined the impact of world trade organization (WTO) on Indian agriculture sector and also analyses the agriculture export performance of India in Pre and Post WTO Regime. He found that the export performance of Indian agriculture sector was not satisfactory in post-WTO period while in pre-WTO era performance of this sector was more than satisfactory.

Several work has been done to compare the trend of agricultural export in the pre and post WTO period but this paper goes a step ahead and apart from comparing the trend, growth rate and share in world agricultural exports, the study brings the commodity wise analysis of agricultural trade using latest available data in order to have an idea of the changing pattern of trade and most importantly the paper measures the convergence or divergence of agricultural exports over the years by calculating Simpson Index.

TRENDS IN INDIAN AGRICULTURAL EXPORTS

The performance of India's agricultural and allied exports in pre-WTO period (1990-91 to 1994-95) was satisfactory. It recorded an average value of US\$ 3589.4 million and an average share of 17.5% in total exports. The compound annual growth rate recorded in pre-WTO period of 7.16% was low as compared to post-WTO period (1995-96 to 2014-15) that is 12.35%. The average value of agriculture and allied exports in post-WTO period is US\$ 17334.72 million and the average share is 13.62% (see table 1). However, there has been various fluctuations in the agricultural exports in the post-WTO Period. The share of agricultural exports in total exports was 19.13% in 1995-96. It initially increased to 20.50 in 1996-97. Since then, there has been continuous

decline in the share till 2005-06 where the share has dropped to 9.9%. Thereafter, several ups and downs were exhibited and the share in 2015-16 was 13.7%. On an average, the share of agricultural exports for 1995-96 to 2015-16 is 13.62% which is lower than the average share in pre WTO period. This implies that the average share of agricultural exports in total exports has fallen in post-WTO period, thus showing negative impact of WTO on agricultural exports. This is in contrary to the expectations that Agreement on Agriculture of WTO would help in improving the country's agricultural exports.

Table 1: Exports of Agricultural Commodities from India (Value in Million US\$)

Year	Total Exports	Agricultural and allied Exports	Growth Rate in Agricultural Exports	Agricultural Exports as % Total Exports
Pre-WTO Period				
1990-91	18145	3354	17.59	18.49
1991-92	17865	3203	-4.5	17.93
1992-93	18537	3136	-2.1	16.92
1993-94	22238	4028	28.4	18.11
1994-95	26331	4226	4.9	16.05
Average	20623.2	3589.4	8.86	17.5
CV	17.70	13.98		5.70
CAGR	10.12	7.16		-2.69
Post-WTO Period				
1995-96	31795	6082	43.9	19.13
1996-97	33470	6863	12.8	20.50
1997-98	35006	6626	-3.4	18.93
1998-99	33219	6035	-11.3	18.17
1999-00	36822	5608	-7.0	15.68
2000-01	44560	5973	6.5	13.5
2001-02	43827	5901	-1.7	13.5
2002-03	52719	6710	14.1	12.8
2003-04	63843	7533	12.2	11.8
2004-05	83536	8475	11.7	10.1
2005-06	103091	10214	20.5	9.9
2006-07	126414	12683	24.0	10.3
2007-08	163132	18432	45	11.3
2008-09	185295	17534	-4.8	9.5
2009-10	178751	17735	1.1	10.0
2010-11	251136	24696	39.2	9.9
2011-12	217664	37420.8	51.52	17.19
2012-13	300400.7	42356.50	13.19	14.10
2013-14	314415.7	43357.92	2.36	13.79
2014-15	310352	39290.56	-9.38	12.66

2015-16	262003.7	34503.42	-12.18	13.17
Average	136735.81	17334.72	11.82	13.62
CV	75.82	79.25		25.20
CAGR	14.62	12.35		-2.00

Source: Calculation based on data from RBI, Handbook of Statistics on Indian Economy

The coefficient of variation calculated in the table shows that the variability has increased over the years. Coefficient of variation was 5.70 for the share of agricultural exports in total exports in pre WTO period which increased to 25.20 in post WTO period. Further, we see that although the average value of agricultural exports has increased from \$ 3589.4 Million in pre WTO period to \$ 17334.72 Million in post WTO period, the average share has declined from 17.5% to 13.62% respectively. This implies that there has been growth in the value of agricultural exports in the two period but the share in total exports has declined. This may be due to greater increase in non-agricultural exports than the agricultural exports of the country.

Table 2: Value of Agricultural Exports and Percentage Share of India in World Agricultural Exports (Value in US\$ million)

YEAR	WORLD	INDIA	India's Share in World Agricultural Exports
Pre-WTO			
1990-	414723	3506	0.80
1991	418236	3361	0.80
1992	447887	3676	0.82
1993	429335	4167	0.97
1994	500913	4399	0.88
Average	442218.8	3821.8	0.85
CAGR (1990-1994)	4.12	6.92	3.91
Post-WTO			
1995	583200	6322	1.0
1996	592870	7040	1.18
1997	589230	6863	1.16
1998	560560	6235	1.11
1999	543820	5835	1.07
2000	552250	6401	1.15
2001	554130	6265	1.13
2002	582530	7025	1.20
2003	683366	7935	1.16

2004	788084	8588	1.08
2005	851847	10134	1.18
2006	943676	12353	1.30
2007	1127667	16020	1.42
2008	1348136	21251	1.57
2009	1181391	16384	1.38
2010	1366469	23106	1.69
2011	1659524	34323	2.06
2012	1656711	42356.50	2.56
2013	1744833	43357.92	2.48
2014	1765405	39290.56	2.23
2015	1568337	34503.42	2.2
Average	1011620.76	17218.50	1.49
CAGR (1995-2015)	7.26	11.90	4.46

Source: WTO, International Trade Statistics

The above table tries to show the picture of India's agricultural exports globally. There has been absolute growth in the value of India's agricultural exports in the post WTO period as compared to pre WTO period. India's average share in world agricultural exports was very low i.e. 0.85% in pre WTO period and increased to 1.49% in post WTO period which implies that WTO has improved India's position in world agricultural exports. Also, we observe that India's share in world agricultural exports was 1% in 1995. It then started increasing marginally to 1.69% in 2010 with an average growth rate of 4.6% per annum. Suddenly, we see that the share jumped to 2.06% in 2011 showing growth rate of 21.89% in the year 2010-11 and then increased to 2.56% with the growth rate of 24.27% in 2011-12. This increase in share has enabled India to fall among the leading exporters of agricultural exports and also signifies that the agreement on agriculture has proved beneficial to India in capturing global market share. But we see that the share has begun to decline from 2.56% in 2012 to 2.20% in 2015 with the negative growth of 4.68% annually over the years 2012-15.

TRENDS IN AGRICULTURAL EXPORT OF SELECTED COMMODITIES

So far, we have seen the trend of India's agricultural exports as a whole in the pre and post WTO period. But in order to have a deep understanding about the impact of WTO, we need to know how it has affected the exports of various commodities. Therefore, we

have selected few major commodities which either accounts for greater share in agricultural exports or are the major crops produced in India.

Table 3: Percentage Share of Selected Agricultural Commodities in India's Total Exports in Pre-WTO Period

Commodities	1990-91	1991-92	1992-93	1993-94	1994-95	Average
Agriculture and allied products	18.5	17.9	16.9	18.1	16.1	17.5
1. Tea	3.3	2.8	1.8	1.5	1.2	2.12
2. Coffee	0.8	0.8	0.7	0.8	1.3	0.88
3. Rice	1.4	1.7	1.8	1.8	1.5	1.64
4. Wheat	0.1	0.3	0.0	0.0	0.1	0.1
5. Tobacco	0.8	0.9	0.9	0.7	0.3	0.72
6. Cashew	1.4	1.5	1.4	1.5	1.5	1.46
7. Spices	0.7	0.8	0.7	0.8	0.7	0.74
8. Oil meal	1.9	2.1	2.9	3.3	2.2	2.48
9. Fruits & Vegetables	0.7	0.8	0.6	0.6	0.5	0.64
10. Marine Products	2.9	3.3	3.2	3.7	4.3	3.48

Source: Calculated on the basis of data collected from RBI, Handbook of Statistics on Indian Economy

Table 3 and 4 shows the average percentage share of the selected agricultural commodities in India's total exports under pre and post-WTO period respectively. The average percentage share in exports of tea, coffee, tobacco, cashew, oil meals and marine products has reduced from 2.12, 0.88, 0.72, 1.46, 2.48, 3.48% in the pre WTO period to 0.63, 0.54, 0.65, 0.63, 0.61, 0.76% in post WTO period respectively. And the average percentage share of rice, wheat, spices, fruits and vegetables has increased from 1.64, 0.1, 0.74, and 0.64% in pre WTO period to 2.03, 0.2, 1.21 and 1.86% in post WTO period respectively. This implies that there is negative impact of WTO on the relative share of tea, coffee, tobacco, cashew, oil meals and marine products in total exports and on the other hand WTO has a positive influence on the relative share of selected commodities like rice, wheat, spices, fruits and vegetables in total exports. Although the increment is not much fascinating but still there is a positive outcome of these commodities in post WTO period. The table also shows the average share of agricultural exports as a whole in India's total exports. We find that the

Table 4: Percentage Share of Selected Agricultural Commodities in India's Total Exports in Post-WTO Period

Commodities	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	average
Agriculture and allied products	19.13	20.5	18.93	18.17	15.68	13.5	13.5	12.8	11.8	10.1	9.9	10.3	11.3	9.5	10	9.9	17.19	14.1	13.79	12.66	13.17	
1. Tea	1.1	1.2	1.4	1.6	1.1	1.0	0.8	0.7	0.6	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	13.62
2. Coffee	1.4	1.2	1.3	1.2	0.9	0.6	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.54
3. Rice	4.2	2.6	2.6	4.4	1.9	1.4	1.5	2.2	1.4	1.8	1.3	1.2	1.7	1.3	1.3	0.9	1.6	2.1	2.5	2.5	2.2	2.03
4. wheat	0.3	0.6	0.0	0.0	0.0	0.2	0.6	0.7	0.8	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.6	0.5	0.0	0.3	0.2
5. Tobacco	0.8	1.0	1.1	1.1	1.1	0.8	0.7	0.7	0.5	0.5	0.5	0.6	0.6	0.7	0.7	0.7	0.3	0.3	0.3	0.3	0.4	0.65
6. Cashew	1.1	1.1	1.1	1.1	1.5	0.9	0.9	0.8	0.6	0.7	0.6	0.4	0.3	0.3	0.3	0.2	0.3	0.2	0.3	0.3	0.3	0.63
7. Spices	2.2	2.9	2.6	1.4	1.0	1.0	1.1	0.6	1.1	0.8	1.1	1.0	1.2	1.2	0.9	0.9	0.9	0.9	0.8	0.8	1.0	1.21
8. Oil meal	0.8	0.4	0.6	0.5	0.6	0.6	0.6	0.6	0.7	0.6	0.6	0.6	0.5	0.6	0.7	0.5	0.8	1.0	0.9	0.4	0.2	0.61
9. Fruits & Vegetables	3.2	3.4	3.4	3.1	3.2	3.1	2.8	2.7	2.1	1.7	1.7	1.4	1.1	0.8	1.2	1.0	0.4	0.6	0.7	0.7	0.8	1.86
10. Marine Product	0.2	1.3	0.6	0.2	.04	0.1	0.2	.02	0.3	0.1	0.6	1.1	1.3	0.3	1.1	1.1	1.1	1.2	1.6	1.8	1.8	0.76

Source: Calculated on the basis of data collected from RBI, Handbook of Statistics on Indian Economy

average share of agricultural exports in India's total exports has declined from 17.5% in pre WTO period to 13.62% in post WTO period. Despite the fact that agricultural export has increased in absolute terms, we find that its share in total exports has declined. This reduction in the share of agriculture export in post WTO period may be due to greater increase in the exports of non-agriculture sector in the country.

Table 5: Compound Annual Growth Rate of value of exports of Selected Agricultural Commodities in Pre and Post WTO Period

Commodities	Pre-WTO Period 1990-91 to 1994-95	Post-WTO Period 1995-96 to 2014-15
Tea	-15.0	4.6
Coffee	24.2	5.1
Rice	10.5	12.4
Tobacco	13.7	11.7
Cashew	12.3	4.8
Spices	10.5	14.4
Oil meals	13.9	9.8
Fruits&Vegetables	4.0	17.7
Marine Products	20.4	8.2

Source: computed on the basis of data collected from RBI, Handbook of statistics on Indian Economy

The table shows the compound annual growth rate (CAGR) of value of selected agricultural commodities in pre and post WTO period. We find that the CAGR for commodities like tea, rice, spices and fruits & vegetables has increased and for

commodities like coffee, tobacco, cashew, oil meals and marine products, it has declined in the post WTO period. This implies that WTO has negatively affected the export value of commodities like coffee, tobacco, cashew, oil meals and marine products and it has positive influence on the export value of commodities such as tea, rice, spices and fruits & vegetables.

So far, we have seen the trend in agricultural exports in pre and post-WTO period. Now in order to find out whether WTO has led to convergence or divergence in the export pattern, we have calculated Simpson index as shown in table 6.

We find that there was a smooth decline in the Simpson index in pre WTO period. The value of index was 0.915 in 1990-91 and declined to 0.893. This implies that although there was divergence in the agricultural exports, but the intensity of diversification was declining in the pre-WTO period.

Table 7 shows the value of Simpson index in post-WTO period. It is observed that the value remains constantly high throughout the entire period without showing any declining trend. It suggests that there was no sign of specialisation in agricultural exports in post WTO period. Comparing the value of Simpson index in pre and post-WTO period, it is found that in pre WTO period, an attempt was made to achieve specialisation in agricultural exports which is evident from the declining value of Simpson index. On the other hand no such attempt was made in post WTO period.

Table 6: Value of exports and Simpson Index of Selected Agricultural commodities in pre WTO period

	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96
Tea	596.4	491.5	337.2	337.7	310.7	350.1
Coffee	140.6	134.7	129.9	173.9	335.3	449.3
Rice	257.2	306.5	336.8	410.2	384	1365.7
Wheat	17.3	51.5	3.5	0.1	13.5	109.6
Tobacco	146.8	152.9	163.7	147	81.1	133.6
Cashew	249.1	274	258.5	334.2	397.2	369.9
Spices	130.4	151	135.8	181.4	195	237.2
Oilmeals	339.1	373.8	533.8	740.9	572.6	702.1
fruits & vegetables	118.9	141.6	107.9	132.1	139.1	157.7
marine products	535	585.2	601.9	813.6	1126.4	1010.8
agriculture & allied products	3354.4	3202.5	3135.8	4027.5	4226.1	6081.9
simpson index	0.915	0.904	0.897	0.895	0.878	0.893

Source: calculated on the basis of data from handbook of statistics, published by RBI

Table 7: Value of exports and Simpson Index of Selected Agriculture commodities in post WTO period

Year	tea	coffee	Rice	wheat	tobacco	cashew	spices	oilmeals	fruits & vegetables	marine products	total agriculture & allied products	simpson index
1996-97	292.1	401.9	893.6	196.7	213.2	362.9	338.6	984.6	163	1128.9	6862.7	0.923
1997-98	504.9	456.4	907	0.1	288	378.6	379.3	924.3	158.7	1207.3	6626.2	0.909
1998-99	538.4	410.7	1492.9	0.3	181.1	387.8	388	461.5	128.4	1038.4	6034.5	0.881
1999-2000	411.9	331.1	721.4	0	232.8	567.9	407.9	378	148.4	1182.6	5608	0.908
2000-01	391.5	259.4	641.8	90.9	189.8	449.5	354.1	447.6	184.6	1393.8	5973.2	0.911
2001-02	360.5	229.6	665.6	278.9	169.4	376.2	313.9	474.5	221.1	1236.8	5901.2	0.92
2002-03	341.4	205.4	1204.9	363.6	211.4	426	342.1	307.3	245.5	1431.6	6710	0.905
2003-04	365.3	236.3	907	520.4	138.6	371	336	728.7	389.9	1328.7	7533.1	0.930
2004-05	409.6	237.9	1506.5	324.9	279.2	554	419.1	707.2	398.9	1328.7	7533.1	0.918
2005-06	390.9	358.8	1405.2	125.9	300.6	585.8	477.9	1101	481.9	1589.2	10213.8	0.934
2006-07	435.3	435	1554.9	7.8	372.4	553.9	697.9	1216.4	681	1768.2	122683.4	0.948
2007-08	505.3	465	2919.6	0.1	479.8	555.1	1071.7	2022	761.6	1720.5	18432.1	0.946
2008-09	584.6	490.4	2427.2	0.3	752.5	637.2	1378.1	2232.8	982.6	1536.4	17534.9	0.942
2009-10	620.4	428.3	2372.3	0	915.7	590.5	1253.9	1650.8	1514.6	2086.7	17734.1	0.942
2010-11	736.2	660.6	2542.9	0.2	874.7	618.8	1730.9	2429.5	1445	2615.6	24207.6	0.957
2011-12	851.1	946.2	5030.7	213.5	836	916.1	2734.1	2461.1	1728	3460.7	37473.3	0.959
2012-13	867.3	865.9	6222.8	1935.1	924.5	747.5	2789.3	3036.1	1796.3	3462.8	40937.7	0.957
2013-14	805.5	793.2	7782.7	1530.1	1013.9	842.2	2503.5	2821.4	2256.3	5062.2	42570.4	0.941
2014-15	682.2	813.4	7855	1668.9	959.8	910.3	2428.3	1329.5	2154.8	5509.7	44363.7	0.930
2015-16	720.7	782.5	5773.8	1874.9	984.8	910.3	428.3	1329.5	2154.8	5509.7	44363.7	0.948

FINDINGS AND CONCLUSION

After analysing the trend of India's agricultural exports in pre and post WTO period, we found that there has been various fluctuations in the agricultural exports in the post-WTO period and the average share of agricultural exports in country's total exports is lower in the post WTO period as compared to pre WTO period. This implies that the average share of agricultural exports in total exports has fallen in post-WTO period, thus showing negative impact of WTO on agricultural exports. This is in contrary to the expectations that Agreement on Agriculture of WTO would help in improving the country's agricultural exports. However, India's average share in world agricultural exports was very low i.e. 0.85% in pre WTO period and it increased to 1.49% in post WTO period which implies that WTO has improved India's position in world agricultural exports.

Further, analysing the percentage share of selected agricultural commodities in India's total exports, the study found that there is negative impact of WTO on the relative share of tea, coffee, tobacco, cashew, oil meals and marine products in total exports and on the other hand WTO has a positive influence on the relative share of selected commodities like rice, wheat, spices, fruits and vegetables in total exports. Also, we find that the average share of agricultural exports in India's total exports has declined from 17.5% in pre WTO period to 13.62% in post WTO period. Despite the fact that agricultural export has increased in absolute terms, we find that its share in total exports has declined. This reduction in the share of agriculture export in post WTO period may be due to greater increase in the exports of non-agriculture sector of the country.

Lastly, comparing the value of Simpson index in pre and post-WTO period, it is found that in pre WTO period, an attempt was made to achieve specialisation in agricultural exports which is evident from the declining value of Simpson index. On the other hand no such attempt was made in post WTO period. This implies that WTO has not laid India to gain expertise in the exports of agricultural products. It is believed that in order to improve the exports of the country, it should specialise in the exports of the commodity in which it has comparative advantage but looking at the value of Simpson index, we could interpret

that India has not been able to specialise in the commodity of its comparative advantage as there has been divergence in agricultural exports.

It is thus concluded that WTO has mixed impact on India's agricultural exports. On one hand, it has positive influence in the exports of several commodities like rice, wheat, spices and fruits & vegetables and also it helped to improve India's position in global agricultural exports. On the other hand, it has negatively affected the exports of few commodities like tea, coffee, tobacco, cashew, oil meals and marine products and also it has not helped India to gain expertise in the exports of agricultural products and specialise in the commodity of its comparative advantage. The average share of agricultural exports in total exports of the country has also declined in post WTO period implying that WTO has not been able to fulfil its expectations of improving the country's agricultural exports.

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