

Original Research Article

<https://doi.org/10.20546/ijcmas.2018.701.102>

Direction and Competitiveness of Cotton Export under WTO Regime

J.A. Lamtule^{1*}, P.P. Sawant¹ and R.G. Deshmukh²

¹College of ABM, Gunjalwadi Pathar, Sangamner, Ahmednagar, India

²Department of Agriculture Economics and Statistics, Dr. P. D. K. V., Akola, (M.S.), India

*Corresponding author

ABSTRACT

The present study attempts to examine the direction and competitiveness of cotton export during pre- and post-WTO period. The time series data on export and import were collected for a period from 1977-78 to 2012-13. The study period was divided into pre-WTO period (1977-78 to 1994-95) and post-WTO period (1995-96 to 2012-13). The findings of the study reveal that during pre-WTO period Bangladesh, Portugal, Singapore, Spain, Sri Lanka, Switzerland, UAE, UK, and USA were highly unstable importers of Indian cotton. It is observed that during post-WTO period Bangladesh, Indonesia, Nepal, Portugal, Republic of Korea, Singapore, Spain, Sri Lanka, Switzerland and UAE were highly unstable importers of Indian cotton. While China and Japan were the most stable importers of Indian cotton during post-WTO period. The results of the NPC values for both the pre-WTO and post-WTO period indicated that the coefficients were less than one for all the years. It indicate that there was a more scope for export of cotton i.e. cotton was dis-protected in India. The average NPC value for pre-WTO period (0.34) and post-WTO period (0.38) indicated that the unit price of the Indian cotton in the domestic market was not much competitive in the international market.

Keywords

Pre- and Post-WTO,
Competitiveness,
Cotton

Article Info

Accepted:

10 December 2017

Available Online:

10 January 2018

Introduction

Cotton is one of the most important textile fiber in the world, accounting for 35 per cent of the world fiber use. Among the cotton growing countries, India has the largest area under cotton production followed by China, United States and Pakistan. India accounts for about 34 per cent of the global cotton area and contributes to 28 per cent of the global cotton production. China is the largest producer of cotton followed by India and United states. Though China (5.5 million hectares) has just more than half of India's area (12.2 million

hectares), it produces twice the cotton compared to India. Among the six major cotton growing countries, Brazil (1353 kg/ha) hold highest productivity level followed by China (1346 kg/ha), USA (886 kg/ha), Uzbekistan (698 kg/ha), Pakistan (769 kg/ha) and India (491 kg/ha). China is the largest consumer followed by India and Pakistan. United States is the largest exporter followed by India and Uzbekistan. While the major importers of cotton are China, Turkey, Bangladesh and Pakistan. Though the share of agricultural exports has been declining over the years (18-20 per cent in 1990), there are

certain commodities whose exports are increasing and one such commodity is cotton. Cotton is the only crop in which India enjoys genuine export surplus after meeting our domestic needs and the raw material availability has not been an issue for industries in the last few years. A Cotton export is one of the major issues in the WTO as it is a major crop of the developing countries who suffered the loss of price fall due to subsidies.

Against this back ground the present study is undertaken to estimate the direction and competitiveness of cotton export during pre- and post -WTO periods.

Hypothesis

The Indian cotton exports have increased in the post WTO period.

The Indian cotton is competitive in international market.

Materials and Methods

The study is based on the secondary data collected from various published sources. The time series data regarding export and import of cotton was collected from 1977-78 to 2012-13 and this period was divided into pre-WTO period (1977-78 to 1994-95) and post-WTO period (1995-96 to 2012-13). The data on world production of cotton and exchange rate were obtained from the FAO publications and the publications of the Directorate General of Commerce, Intelligence and Statistics (DGCIS), Kolkata.

The trade direction of Indian cotton exports were analyzed by using the first order Markov chain approach (Jayesh, 2001). Central to Markov chain analysis is the estimation of the transitional probability matrix P. The elements P_{ij} of the matrix P indicates the probability that export will switch from country i to country j

with the passage of time. The diagonal elements of the matrix measure the probability that the export share of a country will be retained. Hence, an examination of the diagonal elements indicates the loyalty of an importing country to a particular country's exports.

The export competitiveness of cotton was analyzed by using nominal protection coefficient. The nominal protection coefficient (NPC) is defined as the ratio of the domestic price to the world reference price of the commodity under consideration. Symbolically,

$$NPC = \frac{Pd}{Pr}$$

Where,

NPC = nominal protection coefficient

Pd = domestic price of the cotton

Pr = world reference price of the cotton i.e., what the farmer would have received in case of free trade.

If the NPC is greater than one, then the commodity is protected (no scope for export), compared to the situation what would prevail under free trade and if it is less than one the commodity is dis-protected (scope for export).

Results and Discussion

The results obtained from the present study have been discussed in detail as under:

Direction of cotton exports from India

Indian cotton is exported to about thirty one countries in the world. For the purpose of studying the directions of exports, twenty

major countries were selected based on the maximum amount of export to these countries and rests of the countries were grouped as others. The destination wise export of Indian cotton is given in Table 1.

The transitional probability matrices are presented in Table 2 and 3. The results indicated the changes in the direction of trade of Indian cotton in both periods which helped in describing the changing direction during the post-WTO period over the pre-WTO period.

It is observed from Table 2 that during pre-WTO period Bangladesh, Portugal, Singapore, Spain, Sri Lanka, Switzerland, UAE, UK, and USA were highly unstable importers of Indian cotton and could not retain their previous year's share of cotton export. The previous period's share of Portugal, Singapore, UK and USA were shifted to Spain. While China, Turkey, Indonesia, Japan and Thailand were the most stable importers of Indian cotton during pre-WTO period.

The sum of diversified and retained export for each country was given below in the form of transitional probabilities. The picture of export indicates that there was 5.21 per cent increase in export to China during pre-WTO period. Similarly highest increase of 89.63 per cent in export to Spain followed by 45.91 per cent to Indonesia, 42.26 per cent to UK, 36.44 per cent to Mauritius, 16.99 per cent to Philippines, 16.38 per cent to Bangladesh and 12.52 per cent in export to Japan were observed. At the same time there was 74.66 per cent reduction in export to Sri Lanka, 72.97 per cent to USA, 70.17 per cent to UK, 67.14 per cent to Singapore, 54.02 per cent to Portugal, and 18.92 per cent reduction in export to Vietnam during the pre-WTO period.

The trade pattern and direction of cotton exports during post-WTO period is given in

the Table 3. The transitional probability matrix gives a broad indication of the changes in the direction of trade of Indian cotton exports over a period of 18 years. It is observed from Table 3 that during post-WTO period Bangladesh, Indonesia, Nepal, Portugal, Republic of Korea, Singapore, Spain, Sri Lanka, Switzerland and UAE were highly unstable importers of Indian cotton and could not retain their previous year's share of cotton export.

The previous period's share of Bangladesh, Indonesia, Portugal and Singapore were shifted to China. While China and Japan were the most stable importers of Indian cotton during post-WTO period.

The sum of diversified and retained export for each country was given below in the form of transitional probabilities. The picture of export indicates that there was 223.06 per cent increase in export to Spain during post-WTO period followed by 146.11 per cent to Japan, 42.72 per cent to UK, 33.25 per cent to USA, 28.04 per cent to Sri Lanka, 23.41 per cent to Thailand and 16.88 per cent in export to others were observed.

At the same time there was 60.81 per cent reduction in export to Nepal, 56.97 per cent to UAE, 49.36 per cent to Switzerland, 44.61 per cent to Korea, 32.21 per cent to Mauritius, and 25 per cent reduction in export to Portugal during the post-WTO period.

Direction of cotton imports by India

India imports cotton from about seventy five countries in the world. For the purpose of studying the directions of imports, twenty major countries were selected based on the maximum amount of import from these countries and rests of the countries were grouped as others. The destination wise import of cotton by India is given in Table 4.

Table.1 Export of Indian cotton to different Destinations

Sr. No.	Country	Pre-WTO Period		Post-WTO Period	
		Average Export (Tons)	Share (%)	Average Export (Tons)	Share (%)
1	China	27257.22	31.89	284654.83	55.54
2	Bangladesh	1714.72	2.01	57935.44	11.30
3	Indonesia	3701.11	4.33	25934.72	5.06
4	Thailand	5942.83	6.95	14063.06	2.74
5	Vietnam	1835.94	2.15	14764.11	2.88
6	Turkey	4926.56	5.76	13503.56	2.63
7	Japan	13831.78	16.18	5880.83	1.15
8	Malaysia	1651.61	1.93	5375.89	1.05
9	Mauritius	206.06	0.24	3154.39	0.62
10	Nepal	208.00	0.24	962.44	0.19
11	Philippines	513.67	0.60	1098.44	0.21
12	Portugal	645.33	0.75	471.22	0.09
13	Republic of Korea	2868.89	3.36	2114.00	0.41
14	Singapore	3583.61	4.19	2109.67	0.41
15	Spain	3479.67	4.07	39.28	0.01
16	Sri Lanka	2579.28	3.02	267.61	0.05
17	Switzerland	198.33	0.23	135.94	0.03
18	UAE	39.28	0.05	1135.17	0.22
19	UK	1472.33	1.72	639.22	0.12
20	USA	1598.94	1.87	990.22	0.19
21	Others	7224.22	8.45	77313.89	15.08
	Total	85479.39	100	512543.9444	100

Table.4 Import of cotton by India from different Destinations

Sr. No.	Pre-WTO Period			Post-WTO Period		
	Country	Average Import (Tons)	Share (%)	Country	Average Import (Tons)	Share (%)
1	Australia	2269.78	11.53	Australia	8180.50	6.23
2	Benin	1157.39	5.88	Benin	6043.06	4.60
3	Burkina Faso	544.39	2.77	Burkina Faso	4439.72	3.38
4	Cote d'Ivoire	810.67	4.12	Cote d'Ivoire	5111.39	3.89
5	Egypt	1819.78	9.25	Egypt	16407.83	12.50
6	Mali	559.44	2.84	Mali	4413.72	3.36
7	Pakistan	5407.06	27.48	Sudan	3465.17	2.64
8	Sudan	2210.94	11.23	Tanzania	5955.89	4.54
9	Tanzania	283.83	1.44	USA	35381.94	26.95
10	USA	2151.22	10.93	Uzbekistan	4768.17	3.63
11	Uzbekistan	211.06	1.07	Argentina	945.22	0.72
12	Cameroon	76.89	0.39	Cameroon	2222.78	1.69
13	China	171.78	0.87	China	1722.39	1.31
14	Israel	84.44	0.43	Greece	3151.33	2.40
15	Malaysia	13.11	0.07	Israel	887.33	0.68
16	Russian Federation	110.17	0.56	Malaysia	1032.50	0.79
17	Switzerland	191.44	0.97	Nigeria	1276.44	0.97
18	Turkey	223.22	1.13	Russian Federation	1610.39	1.23
19	Turkmenistan	133.78	0.68	South Africa	2085.61	1.59
20	Austria	4.39	0.02	Switzerland	802.78	0.61
21	Other	1244.44	6.32	Others	21394.67	16.29
	Total	19679.22	100	Total	131298.83	100

Table.7 Nominal protection coefficient of cotton

Pre-WTO				Post-WTO			
Year	Domestic Price (Rs/qtl)	International Price (Rs/qtl)	NPC	Year	Domestic Price (Rs/qtl)	International Price (Rs/qtl)	NPC
77-78	380	801	0.47	95-96	1350	4133	0.33
78-79	410	1446	0.28	96-97	1380	6768	0.20
79-80	445	1548	0.29	97-98	1530	5887	0.26
80-81	475	1150	0.41	98-99	1650	5843	0.28
81-82	480	1324	0.36	99-2000	1775	5102	0.35
82-83	515	1535	0.34	2000-01	1825	5122	0.36
83-84	527	1482	0.36	2001-02	1875	5095	0.37
84-85	535	1503	0.36	2002-03	1875	5214	0.36
85-86	535	1997	0.27	2003-04	1925	4131	0.47
86-87	540	1522	0.35	2004-05	1960	4636	0.42
87-88	550	1153	0.48	2005-06	1980	4552	0.44
88-89	600	1465	0.41	2006-07	1990	4845	0.41
89-90	690	3148	0.22	2007-08	2030	4817	0.42
90-91	750	3966	0.19	2008-09	3000	6015	0.50
91-92	840	3037	0.28	2009-10	3000	7070	0.42
92-93	950	2008	0.47	2010-11	3000	6681	0.45
93-94	1050	3413	0.31	2011-12	3300	8861	0.37
94-95	1200	3380	0.36	2012-13	3900	9697	0.40
Average	637.33	1993.23	0.34	Average	2185.83	5803.89	0.38

Table.6 Transitional probability matrix of cotton imports in the post–WTO period (1995-96 to 2012-13)

	Australia	Benin	Burkina Faso	Cote delvoire	Egypt	Mali	Sudan	Tanzania	USA	Uzbekistan	Argentina	Cameroon	China	Greece	Israel	Malaysia	Nigeria	Russian Federation	South Africa	Switzerland	Others	Average Import	
Australia	0.0412 (337.16)	0.1387 (1134.97)	0.0590 (482.28)	0.1111 (908.63)	0.0000 (0.00)	0.0289 (236.43)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0258 (210.87)	0.0173 (141.25)	0.0000 (0.00)	0.0612 (501.02)	0.0161 (132.05)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0781 (638.72)	0.0776 (634.91)	0.0194 (158.87)	0.3256 (2663.32)	8180.50	
Benin	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0730 (440.87)	0.0000 (0.00)	0.0802 (484.85)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0338 (204.18)	0.0000 (0.00)	0.0194 (117.42)	0.0000 (0.00)	0.1417 (856.43)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.6519 (3939.30)	6043.06
Burkina Faso	0.0000 (0.00)	0.0000 (0.00)	0.0480 (213.09)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.9073 (4028.19)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0447 (198.44)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	4439.72
Cote delvoire	0.3938 (202.99)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.4493 (2296.70)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.1568 (801.70)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	5111.39
Egypt	0.1237 (2030.28)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.2431 (3988.98)	0.0000 (0.00)	0.1360 (2231.34)	0.0000 (0.00)	0.4349 (7136.37)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0346 (568.44)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0054 (89.33)	0.0221 (363.09)	16407.83
Mali	0.0000 (0.00)	0.2062 (910.06)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.2716 (1198.59)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.1895 (836.43)	0.0000 (0.00)	0.0927 (409.10)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.2401 (1059.55)	4413.72
Sudan	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0170 (58.90)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0693 (240.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.9137 (3166.27)	3465.17
Tanzania	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0390 (232.38)	0.0000 (0.00)	0.2824 (1681.65)	0.0070 (41.50)	0.2725 (1622.92)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.1469 (875.08)	0.0012 (7.15)	0.0249 (148.37)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.2261 (1346.83)	5955.89
USA	0.0000 (0.00)	0.0000 (0.00)	0.0164 (579.03)	0.0000 (0.00)	0.4428 (15666.6)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.4606 (16298.2)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0027 (96.83)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0775 (2741.28)	35381.94
Uzbekistan	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	1.0000 (4768.17)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	4768.17
Argentina	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.3394 (320.82)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.6606 (624.40)	945.22
Cameroon	0.0000 (0.00)	0.0000 (0.00)	0.3123 (694.09)	0.0000 (0.00)	0.0000 (0.00)	0.6877 (1528.69)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	2222.78
China	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	1.0000 (1722.39)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	1722.39
Greece	0.0000 (0.00)	0.1823 (574.63)	0.0000 (0.00)	0.1917 (604.00)	0.0000 (0.00)	0.0901 (284.03)	0.0000 (0.00)	0.3056 (962.93)	0.0000 (0.00)	0.0741 (233.57)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.1291 (406.84)	0.0000 (0.00)	0.0047 (14.75)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0224 (70.47)	0.0000 (0.00)	3151.22
Israel	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.7316 (649.14)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.2684 (238.19)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	887.33
Malaysia	0.3799 (392.26)	0.6201 (640.24)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	1032.50
Nigeria	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.8325 (1062.64)	0.0000 (0.00)	0.0000 (0.00)	0.1675 (213.80)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	1276.44
Russian Federation	0.0000 (0.00)	0.1477 (237.78)	0.0000 (0.00)	0.0600 (96.63)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0560 (90.20)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.1263 (203.35)	0.0000 (0.00)	0.3028 (487.57)	0.0183 (29.49)	0.0000 (0.00)	0.2890 (465.37)	0.0000 (0.00)	1610.39
South Africa	0.7685 (1602.83)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.2315 (482.78)	0.0000 (0.00)	0.0000 (0.00)	2085.61
Switzerland	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.4261 (342.07)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)	0.1655 (132.84)	0.0000 (0.00)	0.0000 (0.00)	0.4084 (327.86)	802.78
Others	0.0902 (1929.23)	0.0872 (1866.02)	0.0648 (1385.80)	0.0596 (1274.89)	0.0279 (597.79)	0.0038 (81.99)	0.0045 (96.44)	0.0000 (0.00)	0.3164 (6769.38)	0.1629 (3486.11)	0.0000 (0.00)	0.0189 (405.25)	0.0172 (368.76)	0.0000 (0.00)	0.0000 (0.00)	0.0109 (233.35)	0.0000 (0.00)	0.0000 (0.00)	0.0132 (282.91)	0.0000 (0.00)	0.0000 (0.00)	0.1223 (2616.75)	21394.67
Total Import	8304.75	5363.69	3354.29	3325.03	21134.90	3814.59	4351.50	5091.52	41676.77	4224.93	141.25	2133.71	869.79	2002.86	1443.53	458.60	1285.09	1126.28	1562.94	318.67	19314.03		
Percentage	101.52	88.76	75.55	65.05	128.81	86.43	125.58	85.49	117.79	88.61	14.94	95.99	50.50	63.56	162.68	44.42	100.68	69.94	74.94	39.70	90.27		
% Increase/Decrease	1.52	-11.24	-24.45	-34.95	28.81	-13.57	25.58	-14.51	17.79	-11.39	-85.06	-4.01	-49.50	-36.44	62.68	-55.58	0.68	-30.06	-25.06	-60.30	-9.73		

Note: Figures in the parenthesis indicate average quantity of import (in tons) by India

The transitional probability matrices are presented in Table 5 and 6. The results indicated the changes in the direction of trade of Indian cotton imports in both periods which helped in describing the changing direction during the post-WTO period over the pre-WTO period.

It is observed from Table 5 that during pre-WTO period all the countries except Pakistan, Sudan and USA were highly unstable exporter of cotton to India and could not retain the previous year's share of imports. Cent per cent of imports of previous year was diverted.

The sum of diversified and retained import from each country was given below in the form of transitional probabilities. The picture of import indicates that there was 233.75 per cent increase in import from Russian Federation followed by 233.38 per cent from Malaysia, 177.17 per cent from Cameroon, 104.62 per cent from others and 97.71 per cent from Cote d'Ivoire during pre-WTO period. There was 100 per cent reduction in import from Egypt, Uzbekistan and Austria followed by 93.34 per cent from Mali, 61.04 per cent reduction in import from Burkina Faso, 58.73 per cent from Tanzania and 28.13 per cent reduction in import from Pakistan during the pre-WTO period.

The trade pattern and direction of cotton imports during post-WTO period is given in the Table 6. It is observed from Table 6 that during post-WTO period Benin, Cote d'Ivoire, Sudan, Uzbekistan, Argentina, Cameroon, China, Israel, Malaysia, Nigeria and Switzerland were highly unstable exporter of cotton to India and could not retain the previous year's share of imports. USA, Russian Federation, Mali, Egypt and South Africa were the stable exporters of cotton to India during post-WTO period. The sum of diversified and retained import from

each country was given below the transitional probabilities. The picture of import indicates that there was 62.68 per cent increase in import from Israel followed by 28.81 per cent from Egypt, 25.58 per cent from Sudan, 17.79 per cent from USA and 1.52 per cent from Australia during post-WTO period. There was 85.06 per cent reduction in import from Argentina followed by 60.30 per cent from Switzerland, 55.58 per cent reduction in import from Malaysia, 49.50 per cent from China and 36.44 per cent reduction in import from Greece during the post-WTO period.

Export competitiveness of Indian cotton

As per the theory of comparative advantage, a particular nation can enhance the resource use efficiency and there by the net welfare by producing and exporting commodities in which it has greater comparative advantage than others, so as to maximize its exports revenue.

The Nominal Protection Coefficient (NPC) technique explains the comparative advantage enjoyed by the commodity in the context of free trade. The export competitiveness of cotton was analyzed by using nominal protection coefficient and the values of NPC for Indian cotton are presented in Table 7. The results of the NPC values for both the pre-WTO and post-WTO period indicated that the coefficients were less than one for all the years. It indicate that there was a more scope for export of cotton i.e. cotton was dis-protected in India. The average NPC value for pre-WTO period (0.34) and post-WTO period (0.38) indicated that the unit price of the Indian cotton in the domestic market was not much competitive in the international market. The value of NPC was noticed highest (0.48) in 1987-88 during pre-WTO period and (0.50) in 2008-09 during post -WTO period. The lowest value of 0.19 was observed during 1990-91 in pre-WTO period and 0.20 during

1996-97 in post-WTO period. China, Turkey, Indonesia, Japan and Thailand were the stable markets of Indian cotton during pre-WTO period whereas during the post-WTO period China, Japan and Malaysia were the stable markets of Indian cotton. During the pre-WTO period none of the country was stable exporter of cotton to India whereas during post-WTO period USA and Russian Federation were the stable exporters of cotton to India. An average NPC values for the domestic market price was 0.34 and 0.38 during pre- and post-WTO periods, respectively indicated more competitiveness of Indian cotton in the international market.

References

Guledgudda, S.S., 2005. Production and Export Performance of Cashew – An Economic Analysis. *Ph.D. Thesis*, Uni. of Agric. Sci., Dharwad.

Jayesh, T., 2001. Production and Export Performance of Selected Spices in South India: An Economic Analysis, *M. Sc. (Agri.) Thesis*, Uni. of Agric. Sci., Dharwad.

Mahesh, N., 2009. Economic Constraints Facing the Indian Tea Industry: Strategies for Post - WTO era, *Ph. D. Thesis*, Univ. Agric. Sci., Bangalore, Karnataka, India.

Pramod Kumar *et al.*, 2007. Changing direction of Indian mango exports. *Ind. J. Agric. Mktg.*, 21(1): 130-137.

Reza Sedaghat *et al.*, 2008. Study of Structural Changes in Trade Directions of Pistachio from Iran, *Mysore J. Agric. Sci.*, 42 (3): 510-514.

Sadavatti, P.M., 2006. Exports of Basmati Rice and its stability: Markov Chain Analysis, *Ind. J. Agril. Mktg.*, 20 (1): 11-16.

How to cite this article:

Lamtule, J.A., P.P. Sawant and Deshmukh, R.G. 2018. Direction and Competitiveness of Cotton Export under WTO Regime. *Int.J.Curr.Microbiol.App.Sci.* 7(01): 834-844.
doi: <https://doi.org/10.20546/ijcmas.2018.701.102>