



STUDY ON EXPORT COMPETITIVENESS OF ONION FROM INDIA

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ABSTRACT

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India is the second largest onion growing country in the world. Globally, the demand for Indian onion is increasing day by day. Fresh onions occupy first place in exports from India under fresh fruits and vegetables category with 11.50 million tonnes exports worth of ₹ 2,320.70 crores during the year 2019-20. Export competitiveness was estimated by calculating the Nominal protection coefficients (NPC) using secondary data for a period from 2017 to 2019. The results revealed that onion exports to Bangladesh have moderate competitive advantage during the study period.

KEYWORDS: Export competitiveness, Nominal Protection Coefficients and onion exports.

INTRODUCTION

Agriculture sector occupies an important role in development of India economy. India is currently ranked tenth amongst the major exporters globally as per WTO trade data for 2019. India's share in global exports of agriculture products has increased from 1.7 per cent a few years ago, to 2.1 per cent in 2019.

Production and trade of agricultural commodities are crucial to the economic progress of the developing countries like India since agriculture continues to be the predominant livelihood source for large share of its population. Because of globalization the economic reforms came into existence and international boundaries open up for our country for providing opportunity for sale. India is a traditional exporter of fresh onion. Immediately after Independence in 1947, in 1951-52 the country was exporting over 5,000 tones of onion per year. Exports of onion started expanding rapidly during the '60s. There are, however, apparent wide fluctuations in exports from year to year. India has experienced robust growth in export of fresh and processed agricultural products over the last decade. Amongst the fresh fruits and vegetables exported by India, fresh onion fetching the highest export revenue. This underlines the importance of onion in India's export exchequer.

Onion is mainly grown in Asia, Africa and north America and the major onion producing countries were China, India and United states of America. In 2019, the global area under onion was reported by FAO to be 6.32

million hectares, with a production of 99.52 million tonnes. India ranks first in the world accounting for the world area, planted to onion. Globally, the country occupies the second position, after China, in onion production with a production share of 22.83 per cent. In this context the present study was made to estimate the growth rate of onion exports from India and export competitiveness of onion from India.

MATERIAL AND METHODS

To study the growth rates of the onion exports from India, quantity and value of the exports for a period of 25 years *i.e.* from 1995-96 to 2019-20 were collected from (APEDA) Agricultural and Processed Food Products Export Development Authority. Growth of any economic variable signifies its past performance. Growth in quantity and value of onion exports were analysed by using the exponential growth function of the following form,

$$Y = ab^t$$

where,

Y = Dependent variable *i.e.*, quantity, value and unit value of onion exports

a = Intercept or constant

b = Trend coefficient (slope)

t = Time variable (Years)

The function takes the form of a linear equation in a logarithmic and becomes log-linear as shown below:

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

Where 'Ln Y' is natural logarithm of Y, 'Ln a' and 'Ln b' are similarly defined.

The compound growth rate was then computed by using the relationship given as;

$$\text{Compound Growth Rate (CGR)} = [\text{Antilog}(b) - 1] * 100$$

The significance of the regression coefficient (Ln b) was tested by t ratio.

Further the instability in onion exports were calculated by using coefficient of variation. The coefficient of variation (CV) was calculated by using the following formula;

$$CV = \frac{\text{Standard deviation}(\sigma)}{\text{Mean}(\bar{X})} \times 100$$

Traditionally, price is one of the most important indicator of competition as it is a reflection of consumer appreciation of quality and indirect indicator of relative efficiency of the production process. Hence a price based measure like Nominal Protection Coefficient (NPC) has been accepted as a standard measure of competitiveness. Nominal protection coefficient is a direct measure of comparative advantage enjoyed by a commodity in the context of free trade. Although NPC measures only the deviation of domestic prices relative to world prices, the conclusion drawn regarding the policy environment facing agricultural production activity are essentially the same as those drawn from any other robust calculations. The coefficients shed light whether the country has comparative advantage in the production of that commodity or not. NPCs of Indian onion export were estimated in order to examine its export competitiveness in the world market. NPC is defined as the ratio of the domestic price to the world reference price of the commodity under consideration.

$$\text{Symbolically, NPC} = P_d / P_e$$

where,

NPC = Nominal protection coefficient.

P_d = Domestic price of onion adjusted for handling/marketing charges and transportation cost.

P_e = Export price or FOB price/ what the farmer would have received in the context of free trade.

A decision criterion is, if NPC is less than one, then the commodity is export competitive (under exportable hypothesis, and it is worth exporting). If NPC is greater than one, the commodity is not export competitive (not a good export product). NPC helps in measuring the divergence of domestic price from the international price and thus determine the degree of protection (incentive) or dis-protection (disincentive) of the commodity in question.

To calculate the NPCs for the present study, Wholesale prices were obtained from Nasik market. FOB prices were calculated by adding wholesale price, transportation charges, marketing margin of exporter, port clearance and handling charges, certification charges. Landed price was calculated by adding FOB price, freight charges and insurance premium. CIF prices were obtained by dividing landed cost with exchange rates. NPCs were calculated by dividing CIF prices with reference prices of Bangladesh. As Bangladesh was the major importer of Indian Onion, NPC's were calculated with reference to Bangladesh. Reference prices of Bangladesh were collected from the year books of Agricultural statistics of Bangladesh.

RESULTS AND DISCUSSION

Onion Exports from India

From the Table 1 it was revealed that the production of onion in India was increased from 4080000 MT to 22819000 MT for a period from 1995-96 to 2019-20. The growth in domestic onion production was calculated by using exponential form and the CAGR was 9.13 which indicated that there was a positive growth in production of onion in the country. Export of onion in terms of quantity and value was increased from 350989.17 MT to 1114828.57 MT and 230.74 crores to 2320.70 crores respectively for the same period. Further growth in Indian onion exports in terms of quantity and value was estimated to be 8.54 and 14.60 per cent. Share of Indian onion exports in national onion production was estimated and the results indicated that the share was 8.60 in 1995-96 and 4.89 in 2019-20. The growth in share percentage was -0.54. World onion exports during 1995-96 was 4505829 MT and in 2019-20 it was 13919105 MT and the growth percentage was 5.43 per cent. Share of Indian onion

Export competitiveness at onion from India

Table 1. Onion export from India, its share (%) to domestic production and world export

Year	Production (MT)	Export (MT)	Value (₹ Crores)	Share in domestic production (%)	World export of onion (MT)	Share in worlds export (%)
1995-96	4080000	350989.17	230.74	8.60	4505829	7.79
1996-97	4180000	427011.78	265.21	10.22	4472245	9.55
1997-98	3200000	333348.95	202.46	10.42	4127152	8.08
1998-99	5331900	215693.63	176.06	4.05	4815553	4.48
1999-00	4899500	260475.27	202.72	5.32	4705228	5.54
2000-01	4721100	343253.69	276.19	7.27	4392935	7.81
2001-02	5252100	441849.60	332.42	8.41	4823937	9.16
2002-03	4209500	588449.75	361.58	13.98	5531896	10.64
2003-04	6267600	859938.75	715.89	13.72	6884427	12.49
2004-05	7760600	870196.86	644.14	11.21	6946240	12.53
2005-06	9432500	959276.32	708.17	10.17	7305251	13.13
2006-07	10847000	1377005.03	1,163.30	12.69	8261072	16.67
2007-08	13900000	1008413.57	1,035.74	7.25	8588665	11.74
2008-09	13565000	1670160.28	1,827.52	12.31	9163738	18.23
2009-10	12158800	1651968.22	2,319.44	13.59	9276257	17.81
2010-11	15118000	1164030.92	1779.26	7.70	10773285	10.80
2011-12	17511090	1290938.98	1723.03	7.37	10770200	11.99
2012-13	16813000	1616354.21	1966.67	9.61	9865470	16.38
2013-14	19299000	1461521.93	3169.63	7.57	11392754	12.83
2014-15	19401680	1223338.36	2300.57	6.31	11017488	11.10
2015-16	18927000	1360884.87	3097.19	7.19	11216302	12.13
2016-17	20931000	2371439.86	3106.08	11.33	11792762	20.11
2017-18	22427000	1543379.60	3088.79	6.88	12147719	12.71
2018-19	23262000	2122091.22	3468.83	9.12	12343606	17.19
2019-20	22819000	1114828.57	2320.70	4.89	13919105	8.01
Growth (%)	9.13	8.54	14.60	-0.54	5.43	2.95
C.V	56.99	56.04	78.42	31.05	36.87	33.81

Source: Production, World Export data from FAOSTAT and Export data from APEDA

exports in world onion exports were calculated and the results indicated that the percentage was 7.79 in 1995-96 and 8.01 in 2019-20 and CAGR was 2.95 per cent.

It confirms the increase in the exports on par with the increase in production but the share of Indian onion exports in domestic production over the period was reducing which indicated the scope for further increasing the Indian onion exports, it also confirmed the increased preference of Indian onion in the global market. A close look at the results revealed that share of Indian onion exports in world exports was increasing from 1995-96 to 2018-19, but it was drastically reduced in 2019-20 the reason was ban in the exports of onion from September 14th 2019 to January 1st 2020 after a bad crop crimped output causing domestic onion prices to show signs of firming up.

The results were in line with the result of Kulkarni *et al.*, (2012) and Ajaruddin and Maman (2020).

EXPORT COMPETITIVENESS OF ONION UNDER EXPORTABLE HYPOTHESIS (2017, 2018 and 2019)

The competitiveness of Indian onion was examined using nominal protection coefficient (NPC). Nominal Protection Coefficients were computed to determine the extent of competitive advantage enjoyed by the

commodity in the context of free trade. The coefficients had highlight on whether a country has comparative advantage in the export of that commodity in the free trade scenario or not (Guledgudda *et al.*, 2014).

The NPC value of less than unity indicates global competitiveness of the commodity under consideration, the NPC value less than 0.5 denotes high competitiveness and from 0.5 to 1.0 indicates moderate competitiveness (Jayesh, 2001). NPC's were estimated to Bangladesh as it is the major importer under exportable hypothesis for a period of three years (2017 to 2019) as discussed below.

The NPC calculated by taking the wholesale prices of onion which were considered from the Nasik market because it is having the major exports of onion from the nation to major destination Bangladesh. The wholesale prices from (Nasik) India were calculated by taking the average monthly wholesale prices of onion from AGMARKNET. Table 2.1 shows estimated NPCs of onion exports to Bangladesh over a period of three years. The NPC observed as 0.81 in 2017, 0.88 in 2018 and 0.64 in 2019. These figures revealed that Onion exports to Bangladesh have moderate competitive advantage during the study period. Further, the average NPC value (0.78) is close to one which indicates that the competitiveness was low during the study period.

Table 2. Nominal protection coefficients of Indian onion to Bangladesh (2017 to 2019)

S. No.	Particulars	Units	2017	2018	2019
1.	Wholesale price in Nashik market	₹/Qtl	1303.83	1824.72	1723.50
2.	Transportation charges	₹/Qtl	160.00	190.00	200.00
3.	Market margin(5%) of the whole sale price	₹/Qtl	59.22	53.34	94.15
4.	Port clearing and handling charges	₹/Qtl	100.00	100.00	100.00
5.	Fumigation charges	₹/Qtl	100.00	100.00	100.00
6.	Certification charges	₹/Qtl	0.00	0.00	0.00
7.	FOB prices	₹/Qtl	1723.05	2268.06	2217.65
8.	Freight charges from India to Bangladesh	₹/Qtl	300.00	350.00	400.00
9.	Insurance(2%)	₹/Qtl	23.68	21.33	37.65
10.	Landed price	₹/Qtl	2046.73	2639.39	2655.30
11.	Exchange rate	1BDT = ₹	0.873	0.814	0.834
12.	CIF price	BDT/Qtl	2344.48	3242.49	3183.81
13.	Reference price of Bangladesh	BDT/Qtl	2899.00	3677.00	4943
14.	NPC		0.81	0.88	0.64

Export competitiveness at onion from India

Hyma *et al.* (2003) reported that the average value of onion calculated at SER for the financial years from 1996-97 to 1999-2000 was 0.80 indicating the moderate export competitive nature of Indian exports. Further, Gulati *et al.* (1994) reported average NPC at SER for onion during 1986-87 to 1992-93 was 0.71. This indicates the moderate competitive advantage of Indian onion.

The results revealed that the export of onion to Bangladesh have moderate advantage and the average NPC indicated that the competitiveness was low. From time to time the government will ban the export of onion and also imposes MEP to tame domestic prices. This creates lot of instability in the export of onion as it debar traders from exporting onions. Hence an appropriate export policy should be developed. This will safeguard India's reputation in the global market as a reliable supplier. Exporting dehydrated onion in the form of powder/ flakes/ chopped slices will attracts new avenues for exporting onion. Quality assurance is the key factor for export competitiveness of dehydrated onion.

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