

Export Performance of Onion

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ABSTRACT

India is a traditional exporter of Onion. Immediately after independence in 1951-52. The country was exporting over 5000 tones of onion started expanding, rapidly during the sixties and reached a peak level of 427 thousand tones in 1996-97. Over the years there has been a progressive increase in the export of onion from India. Being a traditional exporter India exported 1783820MT of onion during 2008-09 with total value of 283428 Rs. lakh which is record quantity after the export was canalized through NAFED. The major export destinations of onion are Bangladesh, Malaysia, UAE, Srilanka and Nepal. Until 1998 onion exports from the country was canalized through the National Agricultural Co-operative Marketing Federation of India (NAFED). After 1998 other 12 canalising agency were added by government of India for onion export. In a view of the above, the study was undertaken with the following objectives. 1. To study the growth in export of onion. 2. To study the instability in export of onion. 3. To examine the export competitiveness of onion. The study of growth in export of onion was studied by using exponential function. The instability in export was studied by coefficient of variation and Cuddy and Dell instability index. To study of export competitiveness NPC (Nominal protection coefficient) was used. The performance of exports with respect to growth in quantity, (8.32) value (14.94), and unit price (6.11) of export of onion showed positively significant. Cuddy and Dell's instability index showed that onion has high instability in export in terms of quantity (67.07%), value (108.12%) and unit value (36.29). The NPC for Onion is 0.57%. Thus export competitiveness indicated that there is wide scope for increasing the export of onion.

Key words Export, Performance, Onion

India is second largest producer of vegetables in the world after China. The production of vegetables in the India has touched 129077 thousands MT in the year 2007-08. India is emerging as major producer of the vegetables which provide a remunerative means for diversification of land of improving productivity and returns. India has about 7981 thousand hectares of land under the vegetables crops which share 38.7 percent to total land under the horticultural crops. (Horticultural database-2009). The production of vegetables crops share 60.1 percent to the total production of horticultural crops with the productivity of 16.2 thousands MT per hectare.

Export of fresh vegetables from India has been increasing. Main vegetable exports from India are to south east Asia and middle East, except cucumber and gherkin. Onion is traditional export item followed by the Tomato

, Potato, Cucumber, Gherkin. The export volume of fresh vegetables 1670186.29 MT with the value of 182752.21 ' Lakh in 2008-09.

India is a traditional exporter of Onion. Immediately after independence in 1951-52. the country was exporting over 5000 tones of onion started expanding, rapidly during the sixties and reached a peak level of 427 thousand tones in 1996-97. Over the years there has been a progressive increase in the export of onion from India. Major exporting varieties are Big - Pusa Red, Agrifound Light Red, N-2-4-1 Agrifound Dark Red, N-53, Nasik Local, Bellary Red, etc. Small - Agrifound Rose, Bangalore Rose, Podisa, Multore, Nattu etc. India exported 1783820MT of onion during 2008-09 with total value of 283428 ' lakh which is record quantity after the export was canalized through NAFED. The major export destinations of onion are Bangladesh, Malaysia, UAE, Srilanka and Nepal.

Objectives of study

In a view of the above, the study was undertaken with the following objectives.

1. To study the growth in export of onion.
2. To study the instability in export onion.
3. To examine the export competitiveness of onion.

MATERIALS AND METHODS

The study was based on secondary data on export of onion in terms of quantity, value and unit value which were collected from the APEDA, NHRDF, NHB, USDA publications and Directorate General of Commercial Intelligence and Statistics, Government of India. The data collected for the period of 1990-91 to 2009-10. divided into two sub periods (i. e. 1990-91 to 1999-2000 and 2000-01 to 2009-10).

Analytical Technique

Growth in export of onion

To study the growth in export of onion in terms of quantity, value and unit value compound growth rate was estimated with the help of exponential function as follows.

$$Y = ab^t$$

Where,

Y = Dependent variable for which growth rate was estimated

a = Intersept

b = Regression coefficient

t = time

Compound growth rate is estimated from the fitted exponential regression parameter b.

Compound growth rate (r) = [Antilog (log b) - 1] x 100
Instability in export of onion.

In order to study the variability in the export of onion, coefficient of variation and “Cuddy and Della’s instability index” was used as the measures of variability.

The coefficient of variation (CV) was calculated by the formula.

$$C.V (%) = \frac{\sigma}{X} \times 100$$

Where,

C.V. = Coefficient of variation

σ = Standard deviation

$$\sigma = \frac{\sum (X - \bar{X})^2}{n}$$

\bar{X} = Arithmetic mean

Cuddy and Dell index

Coefficient of variation defined above does not take trend components prevailing in time series data. In order to have meaningful measures of instability, coefficient of variation is modified as proposed Cuddy and Dell.

The formula suggested by Cuddy and Dell (1978) was used to compute the degree of variation around the trend.

$$\text{Index of instability} = \frac{\text{Standard deviation}}{\text{Mean}} \times 100 \times \sqrt{1 - R^2}$$

Where,

R^2 is the coefficient of determination

Export competitiveness

Competitiveness is the objective of a nation to grown successfully to maintain its share world trade. The export competitiveness was studied using:

$$NPC = \frac{P_d}{P_b}$$

Where, NPC = Nominal protection coefficient

P_d = Domestic price of commodity

P_b = International price or Border price or reference price

The Wholesale price of Bombay market was taken for onion, and potato as a domestic price.

When there is no protection given to the commodity its domestic price is equal to its border price and NPC is equal to 1. NPC more than one indicates that protection is given to the commodity and there for trade liberalization would reduce the domestic price: conversely NPC is less than one indicates that commodity is taxed and liberalization would raise the domestic price. (Tamanna Chaturved and Chaurasia, 1999)

RESULTS AND DISCUSSION

Growth of Onion Export

The performance of onion exports with respect to growth in quantity, value and unit value of export was examined for the period from 1990-91 to 2009-10 using an exponential growth model. The results are presented in Table 1.

The performance of Indian onion with respect of growth in quantity exhibited as positive growth rate of 8.32 per cent annum, which was statistically significant at 1 per cent level of significance while the export value recorded comparatively higher annual growth rates at 14.94 per cent which was statistically significant at 1 percent level significance. Onion represent lower annual growth rate in per unit value which was 6.11 per cent per annum. The regression coefficients were statistically significant at 1 per cent level.

During the first period, the growth rate of export quantity ,was negative i.e. -0.25 percent per anum which was non significant while as the growth rate of value and unit price of onion were 9.39 per cent and 9.68 per cent per annum respectively which was significant at 5 percent and 1 percent level significance respectively. However the growth of export quantity during this period was negative and non significant. This indicates that the export of onion was decreasing during first period. In the second period, the growth rate of export quantity was positive and significant. The growth rate was 19.1 percent. The growth rate of export of onion in terms of value and per unit price was 26.08 percent and 5.94 per cent per annum respectively.

Table 1. Compound growth rates of quantity, value, unit prices onion exports from India. (1990-91 to 2009-10)

Period	Qty.	Value	Unit Price
1. Period – I (1991 - 2000)	-0.25	9.39**	9.68***
2. Period – II (2001- 2010)	19.01***	26.08***	5.94**
3. Overall Period (1991- 2010)	8.32***	14.94***	6.11***

*** Significant at 1%

** Significant at 5%

* Significant at 10 %

Export Instability of onion

It could be seen from table 2 .1 that the quantum of onion exported exhibited less variability with coefficient of variation at 19.65 per cent during first period while it was highest in the overall period with coefficient of variation at 67.07 per cent during second period it was 52.22 per cent. .

As regards the export earning in terms of values showed highest instability in the overall period with 108.12 of coefficient of variation. when compared with first and second period study. The coefficient variation in first and second period was 29.89 per cent and 75.86 per cent respectively.

In terms of unit prices of exported onion, the coefficient variation was 36.29 per cent during overall period which was higher than first period and second period. In first period the coefficient of variation was 29.23 per cent while during second period, the coefficient of variation was 23.12 per cent.

In general export quantity and unit price witnessed lower instability as compared to export value.

Table 2. Coefficient of variation in exports of Onion (1990-91 to 2009-10).

Period	Qty.	Value	Unit price
1 Period – I (1991-2000)	19.65	29.18	29.23
2. Period – II (2001-2010)	52.22	75.86	23.12
3 Overall Period (1991-2010)	67.07	108.12	36.29

Cuddy and Dell's Instability index for selected vegetables exports

The coefficient of variation measures the absolute variation while coefficient of instability, which is also called as instability index measures the variation around the trend. It is close approximation of the average year-to-year percentage variation adjusted for trend. Thus the variation round the trend are more pronounced than the absolute variation. The instability index computed using "Cuddy-Dells" instability index, are presented in Table .

Onion

It could be seen from table 2.2 the instability index of onion for overall period in terms of quantity, value, and unit price were 37.20 percent, 36.05 percent and 12.97 percent respectively.

The quantum of onion exported exhibited less variability with coefficient of variation at 14.57 during second period while it was highest it was highest in the overall period with coefficient of variation at 37.20 percent .during first period it was 19.64 percent. As regard export earnings in terms of values showed highest instability in the overall period with 36.05 percent of coefficient of variation when compared with first and second period study. The coefficient of variation in first and second period was 17.27per cent and 19.25 per cent respectively.

In terms of unit prices of exported onion, the coefficient of variation was 12.97 during overall period .The highest instability was noticed in second period at 14.08 percent of coefficient of variation. The coefficient of variation during the first period was 9.17 percent.

Table 3. Cuddy and Dell's instability indices for export of Onion.(1991-2000 to 2001-10).

Period	Qty.	Value	Unit price
1 Period – I (1991-2000)	19.64	17.27	9.17
2 Period – II (2001-2010)	14.57	19.75	14.08
3 Overall Period (1991-2010)	37.20	36.05	12.97

Export competitiveness of onion exports

In the study, NPC as a measure of assess in competitiveness was used as it measures the degree of protection to the domestically produced commodities NPC is generally estimated and presented in Table 3.

Table 4. Nominal protection coefficient (NPC) of Indian vegetables (2001 to 2010)

Sr.No.	Year	Onion
1.	2001	0.71
2.	2002	0.33
3.	2003	0.38
4.	2004	0.61
5.	2005	0.33
6.	2006	0.40
7.	2007	0.85
8.	2008	0.53
9.	2009	0.90
10.	2010	0.65
Average		0.57

Table 3 revealed that nominal protection coefficient for onion average was much below than unity (0.57%). The result showed that Indian onion prices were about 43 % per cent lower than world prices depicting moderate competitiveness of onion in international market. The nominal protection coefficient ranges from 0.33 % to 0.90%.The NPC highest in 2009(0.90%) and lowest in 2002 and 2005(0.33%).

NPC for onion under exportable hypothesis remained below one throughout the study period. This indicates that there was wide scope for increasing the export onion.

CONCLUSION

The overall growth rate of export of onion in terms quantity exhibited a positive and significant growth rate of 8.32 per cent per annum, where as the export value varied comparatively higher annual growth rate at 14.94 per cent per annum. The growth rate of unit price showed positive and significant growth rate of 6.11 percent. This indicates that onion export was increasing in India over the period of time.

The coefficient of variation for onion over the entire period in terms of quantity, value and per unit value were 67.07, 108.12, 36.29 percent per annum which indicate higher instability in value. In general export quantity and unit price shows low instability. The Cuddy and Dell instability index for export of onion for overall period in case of quantity, value and unit price was 37.20, 36.05, 12.97 percent respectively.

The average NPC for onion was less than (0.57) means the crop was export competitive.

This indicated that there was wide scope for increasing the export of onion.

Until 1998 onion exports from the country was canalized through the National Agricultural Co-operative Marketing Federation of India (NAFED). In the year 1998 the Govt. of India felt that only Nafed was not sufficient to work as a canalizing agency & then the Govt. of India has appointed other 12 canalizing agencies (except NAFED) for onion export. Also earlier the onion export was restricted by the Govt. of India (GOI) and controlled through single canalizing agency & therefore the export was not reached to its potential. Due to increase in production of onion in the country led by Maharashtra for decontrol of exports. Considering this demand, the Govt. of India has removed

all the quantity restrictions on onion export from 09/05/2003.

Thus the study shows that there is increase in export of onion by increasing 12 canalizing agency and removal of quality restrictions and there is scope for increasing onion export.

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Received on 10-07-2018 Accepted on 22-07-2018