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# Growth and Instability of India's Agricultural Exports (Pre and Post Reform Period)

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**ABSTRACT:** Agriculture occupies a critically important place in Indian economy. It will not be an exaggeration if we consider agriculture as the backbone of Indian economy, for it sustains the economy in many significant ways. Indian agriculture employs two thirds of India's population and contributes one-third of the National Income. Like other developing countries, agriculture has a predominant position in the field of international trade as well in India. That is, though agriculture is only in the subsistence stage, more or less, it earns for India a substantial amount of foreign exchange. Though India has been a traditional exporter of agricultural products but these have been much instable. Due to this instability in agricultural exports there has been a n adverse effect on the 'economic development' as well as BOP of the country.

**KEYWORDS:** Growth, Instability, Agricultural Exports

## I. INTRODUCTION

Agriculture occupies a very important place in Indian economy and its role in international trade is also very significant. Like other developing countries, India is also an exporter of agricultural products and agricultural exports constitute a major share of the total export of the country. Though India has been a traditional exporter of the agricultural products but these exports are not stable rather they have been very much instable. Due to this instability in agricultural exports, export earnings from these exports have been fluctuating up to a very big extent and this instability in exports and export earnings have adverse affect on the economic development as well as of BOP of the country? As these exports accounts for a major share of total exports, so the fluctuation in these export are liable to have an adverse effect. The paper empirically examines the relationship between agricultural exports and India's agricultural GDP from 1970–1971 to 2019–2020.

### OBJECTIVES OF THE STUDY:

- (1) The first objective of the study is to analyze the trends in production over all agricultural sectors and also to identify the trends of production in selected agricultural commodities.
- (2) The second objective of the study is to identify the growth of agricultural exports and its share in total exports. Besides, study also attempts to find out the relative share of selected agricultural commodities in total agricultural exports.
- (3) The Third main objective of the study is to examine the instability of exports of selected traditional agricultural commodities during the pre-reform period (1970-71 to 1990-91) and post-reform period (1991-92 to 2019-2020) and finally to find out whether the instability of export of these commodities has been increased or decreased from pre-reform period to post-reform period.

## II. METHODOLOGY

In this study we intend to study the instability of exports of selected agricultural commodities during the pre-reform period (1970-71 to 1990-91) and post-reform period (1991-92 to 2019-2020). Basically data from 1970-71 to 2019-2020 have been used for the study. Exponential trend equation has been employed to identify trend and to compute export instability index of selected items of agricultural exports of India. The export instability index has been computed as follows:



$$S = \frac{\sqrt{E(XT - XT^*)^2}}{N}$$

Where

XT = log of export series

XT\* = log of estimated value of exponential trend equation of exports.

N = number of observations

Then, the export instability index has been computed using this formula

$$EI = (S/\text{mean of } X T) \times 100$$

**Growth rate:-**

The compound growth rate has been calculated from following formula:

$$P_n = P_0(1 + r)^n$$

$$P_n / P_0 = (1 + r)^n$$

$$\log(P_n / P_0) = n \log(1+r)$$

$$\log(1+r) = 1/n \log(P_n / P_0)$$

$$(1+r) = \text{Antilog} \{ 1/n \log(P_n / P_0) \}$$

$$r = [\text{Antilog} \{ 1/n \log(P_n / P_0) \} - 1]$$

$$r = (\text{Antilog} (b) - 1) * 100$$

Where b = 1/n log(P<sub>n</sub>/P<sub>0</sub>)

The error of growth rate was computed as follows:

$$S.E. (r) = \sqrt{1/n \sum (r_i - \bar{r})^2}$$

The growth rates were tested by the student's t-test

$$t = r/S.E.(r)$$

Where,

P<sub>n</sub> = Last value of time period

P<sub>0</sub> = First value of time period

r = Rate of growth

The selected commodities of agricultural export for the analysis are tea, coffee, sugar, tobacco, cotton, jute, spices, oil cakes, cashew kernel and fish and fish preparations.

**DATA SOURCES**

The present study is all over based on the secondary data. The data are collected from the various publications of Reserve Bank of India and Government of India. The main data sources are RBI Bulletin (which are published by RBI) and Economic Survey, published by Ministry of Finance, Plan Documents, published by Planning Commission. Besides, Journals and Magazines of National level have been used for the completion of this thesis work.

**INSTABILITY IN EXPORTS – PRE AND POST REFORM PERIOD**

One of the important objectives of the study is to compare the degree of instability in agricultural exports in pre and post reform period. And for this purpose separate instability index numbers for the pre-reform and post-reform period have been estimated and this will help to comparison of instability in exports during the study period, the export instability index for the pre and post reform period are shown in the following table.

Instability in Exports – Pre and Post Reform Period		
Items of Agricultural Export	Export instability index	
	Pre-reform Period (1970-71 to 1990-91)	Post-reform Period (1991-92 to 2019-20)
Tea	0.78	0.77
Coffee	1.57	1.52
Sugar	7.37	6.37
Tobacco	1.32	0.83
Cotton	6.31	5.26



Fish and Fish Preparation	0.91	0.55
Jute	0.78	0.59
Spices	1.35	0.92
Oil-Cake	1.75	2.13
Cashew Kernel	0.92	0.56

If we analysis the table carefully, we draw some important conclusions which are as follows:

- (1) In the pre-reform period, the degree of instability as estimated by export instability index varies between 0.78 to 1.75 (leaving sugar and cotton) while this range varies between 0.55 to 2.13 in post-reform period leaving a side two exceptionally instable items, that is sugar, and cotton.
- (2) If we rank the various goods in terms of instability in ascending order, then we find that during the pre-reform period, tea and jute was the least instable exportable item, while the fish and fish preparation, cashew kernel, tobacco, spices, coffee and oil-cake stands respectively third, fourth, fifth and sixth positions.  
During the post-reform period, fish and fish preparation was the least instable exportable item and enjoys the first position. Cashew kernel is at second position in terms of degree of instability in post-reform period while this position is hold by jute in pre-reform period. In post-reform period, jute, tea, tobacco, spices stand respectively third, fourth, fifth and sixth position respectively.
- (3) Though the fish and fish preparation is the least instable item in pre-reform period but one thing is very important about the export of fish and fish preparation that the instability of export of fish and fish preparation significantly reduced in the post-reform period as the value of export instability index is 0.91 in pre-reform period while it is 0.55 in post-reform period. The stability has increased up to a significant extent.
- (4) Out of ten items, there is one commodity where we note that the degree of instability has been comparatively increased in the post-reform period and that good is oil-cake.
- (5) Likewise there are five items which has been comparatively stable in terms of export are tobacco, fish and fish preparation, jute, spices and cashew kernel. Their instability has been reduced haled in the post reform period in comparison to pre-reform period. It can be proved by the value of export instability index. Tobacco, fish and fish preparation, jute, spices and cashew have been 0.83, 0.55, 0.59, 0.92, and 0.56 for these goods. Exports of these items have been more stable in post-reform period and the stability has increased up to a significant extent.
- (6) As far as the export of oil-cakes has concerns, we may conclude that the export instability index of oil-cakes has been considerably and it is a matter of concern that the instability has been increased in the post-reform period which needs particularly attention of the government. The main reason of this instability is not internal but external that is the exports of oil-cakes of other countries were reduced erratically during post-reform period so we had an opportunity to export our oil-cakes in the world market. So the instability index increased from 1.75 to 2.13 in the post-reform period.  
Thus there have been seven items that is tea, coffee, tobacco, fish and fish preparation, jute, spices and cashew kernel which have been comparatively stable in terms of exports during the post-reform period and thus stability has been increased.
- (7) In the pre-reform period there were the two items where the instability was high these goods are sugar and cotton. In post reform period, the number of goods in export of items is three that is sugar, cotton and oil-cakes.  
One thing which is very common is that two items, sugar and cotton are such commodities which have the high degree of instability index. The export instability index of sugar was 7.37 and for the cotton it was 6.31 in the pre-reform period. In post-reform period, these values have been 6.37 and 5.26  
It implies that these two items lead some policy measures to be taken by the government for the stabilization of these exports.
- (8) Though the degree of instability of sugar is very high in pre and post-reform period but it must be noted that the degree of instability has been decreased in post-reform period. The instability index of sugar which was 7.37 in the pre-reform period decrease to 6.37 in the



post-reform period. Thus sugar was the highest degree of instability in all of the ten items in both periods.

- (9) The export instability of cotton in pre and post-reform period hold very much instable, in comparison of other items. But one thing which is very important is that despite the very high instability in both periods, its instability has been reduced in the post-reform period. It may be shown in its instability index in pre and post-reform period, as it is clear from the table 5.3. The instability index was 6.31 in pre-reform period while it was 5.26 in the post reform period. Thus cotton was the second highest position in terms of instability in the post-reform period. The sugar (6.37) was at the first position in post-reform period.

### III. CONCLUSION

To sum up it may be stated overall situation of agricultural exports has been improved that is the instability in most of the goods covered in the present study has been reduced. Specially the out of ten goods, the instability of nine goods is reduced in post reform period and these goods are tea, coffee, fish and fish preparations, sugar, cotton, jute, spices, tobacco and cashew kernel etc.

As far as the instability regarding in oil-cakes is concern, there has been marginal increase in instability index but the instable situation of the nine goods has been improved significantly in post-reform period.

The instability index of two goods has been decreased significantly during the post-reform period. The most concerning point of the analysis is that the sugar and cotton were one of the most instable items in the pre-reform period and also post-reform period too. But the value of the instability index of both goods has been reduced in post reform period in comparison to pre-reform period, even this is very high in comparison to other goods.

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