

Trend and Volatility in Wheat, Rice and Cotton Prices

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Abstract

The objective of the present study is to examine the price trends and volatility in agricultural commodities mainly wheat, rice and cotton. It has observed that international prices of agricultural commodities are highly volatile and are characterized by cyclical variations. Among these, prices of food grains and cotton have fluctuated around a static mean. However, due to WTO commitments, domestic produces can't be protected from international price shocks. If such shocks are transmitted to farm level, it would destabilize the crop pattern and supply. Since vast majority of the Indian farmers is either small or marginal, they do not have resources and capabilities to change their cropping patterns in a short period as necessitated by the change in international prices. Since under WTO obligations, temporary imports and price shocks can't be checked, there is need to develop mechanism to regulate the unwanted imports and exports.

Keywords: WTO, India, Price Trend, Volatility, Agricultural Commodity

I Introduction

Agricultural trade policy has two dimensions i.e. the producer welfare and the consumer welfare. Producer welfare is enhanced when the exported commodity fetches a higher price in international markets. The consumer welfare is diminished in this case by a rise in domestic prices due to decreased availability

in domestic markets. The net social welfare may be positive or negative depending upon which of these effects is larger. Reverse is the case for importable (commodities with lower international prices). The issues in question are food security (for exportable particularly basic food stuffs) and livelihood security (for importable). Exports (imports) can be a good policy in cases where the producer (consumer) welfare is consistently higher than the consumer (producer) welfare and the losers can be compensated by the gainers directly or through some other institutional mechanism.

The present crisis of Indian agriculture is excess of production and not the shortage of production. We have a food grain mountain of over 60 million tonnes, as well as a mountain of unsold sugar. The transformation from scarcity to excess should have made India a great agricultural exporter. Instead, Indian farmers are angry and fell in misery. Exporting is reduced because of global agricultural prices have been falling for two decades It shows that between 1980 and 2001, the price of rice crashed from \$571/tonne to \$179/tonne; of wheat from \$219/tonne to \$131/tonne. The same step downtrend is evident in other agricultural commodities like cotton, sugar, coffee, soyabean, maize, tea, rubber, beef, coconut oil or palm oil. This was happened because of every country in the world has subsidized agriculture so much for so long that surpluses have grown everywhere. As incomes rise, people spend an ever smaller proportion of income on foods. Some countries have diversified into non- traditional crops, creating further surpluses. But the biggest

reason for gluts remains huge subsidies in Europe, the USA, and Japan. Farmers are a powerful vote bank the world over. They force governments to keep subsidies and import tariffs high. Every country is subsidizing exports at less than cost, so prices are crashing.

II Objective of the Study

The present study is mainly focused on the price trends and volatility in agriculture. In this way, the objective of the study is to examine the price trends and volatility in agricultural commodities mainly wheat, rice and cotton.

III Methodology

In the present study, secondary data is used for analysis and collected from various sources i.e. International Financial Statistics, Yearbook, IMF etc. For analysis, the study period has been taken from 1950 to 2015. Graphs have been used to analyze the data.

IV Price Trends and Volatility of Selected Agricultural Commodities

India, being an economy which is still, by large, dependent on agriculture, must categories the agricultural commodities in such groups which are easy to identify for exports/imports and then form policies to remain export competitive in comparison to the international prices and on the other hand, be ready with the purchasing policies to be an effective and cautious buyer. Behavior of international prices in terms of their level, trend and fluctuations is the most important factors in determining competitiveness, exports, imports and choice of tariffs, by any trading country.

Information about past trends is also useful to draw inferences for future prices and to formulate long term strategy on trade. The

international view about the agricultural prices was based mainly on the assumption that demand for food grows at a faster rate than the growth of supply, and that this would result in rising trend in prices of food and similar agricultural commodities. However, this view has been refuted by the dynamics of demand and supply as real prices of food have followed downward trends notwithstanding occasional price hikes during the last 50 years. The decline is attributed to improvement in supply that has resulted from application of biological and chemical sciences to agriculture which enabled sharp increase in grain yields first in developed countries and with some lag in the developing countries. It is felt that world food situation would continue to improve over the next two to three decades and grains prices in real terms would continue to decline. For developing countries where agriculture and grains dominate the economy, the implications are serious underscoring the need for continued technological degradation. Another aspect of behavior of international prices relevant to trade policy is their volatility.

Price volatility is mainly attributed to the currency exchange ratio especially in case of developing countries and third world countries where this currency exchange brings in considerable difference in the total amounts received for the exports and total outgoing amount for imports. Slight movement in the prices may result in marring of export orders and expensive imports. Both the situations are alarming for the exporting/importing nations. In the table given below, data pertaining to international prices at particular market or at particular port has been obtained from 1950 to 2015. Wherever data was not available, an (-) dash mark represents the blank which indicates the absence of authentic data. All the figures

have been rounded off to near complete digit through charts:
for easy calculations and representations

Table 1
Nominal International Prices of Selected Agricultural Commodities (1950-2015)

US \$/ Tonne

YEAR	Wheat (US HRW) FOB Gulf	Rice Thai (5% Broken) FOB Bangkok	Cotton Liverpool Index
1950	62	137	-
1951	67	144	-
1952	72	156	-
1953	76	175	-
1954	71	158	-
1955	69	142	-
1956	65	137	-
1957	68	137	704
1958	62	142	665
1959	60	132	596
1960	60	125	620
1961	61	137	643
1962	67	153	626
1963	67	143	644
1964	70	138	650
1965	62	136	635
1966	66	163	622
1967	68	206	676
1968	65	202	678
1969	61	187	613
1970	57	144	637
1971	64	129	746
1972	72	147	799
1973	145	350	1368
1974	187	542	1435
1975	155	363	1169
1976	138	255	1707
1977	107	272	1569
1978	133	368	1581
1979	166	334	1699
1980	179	434	2065
1981	182	483	1850
1982	162	293	1597
1983	158	277	1852
1984	153	252	1783

1985	138	216	1320
1986	115	211	1056
1987	115	230	1647
1988	146	302	1399
1989	170	320	1673
1990	137	271	1819
1991	129	294	1694
1992	152	268	1276
1993	141	237	1278
1994	151	270	1760
1995	178	321	2165
1996	210	338	1774
1997	162	302	1745
1998	127	305	1443
1999	112	248	1170
2000	115	202	1291
2001	169	227	1196
2002	182	215	1278
2003	219	236	1299
2004	270	249	1306
2005	267	237	1359
2006	271	256	1325
2007	278	289	1360
2008	287	297	1379
2009	291	323	1442
2010	299	304	1390
2011	298	367	1408
2012	311	389	1445
2013	305	403	1449
2014	313	411	1423
2015	306	409	1460

- Source:** 1. International Financial Statistics, Yearbook, IMF, *Various Issues*.
2. www.thairiceexporters.org.
3. www.knoema.com
4. www.isosugar.org

For analysis of international price trends, seven commodities namely US Hard Red Winter (US HRW) wheat FOB Gulf, Thai Rice (5% Broken) FOB Bangkok, Sugar at Caribbean Ports, Cotton Liverpool Index, Spices(Black pepper Singapore), Tea have been taken with their international market

prices in US \$ to bring in uniformity in pricing. Quantity for US HRW, Thai Rice, Sugar, Cotton, Tea, Black pepper has been recorded in Tonnes.

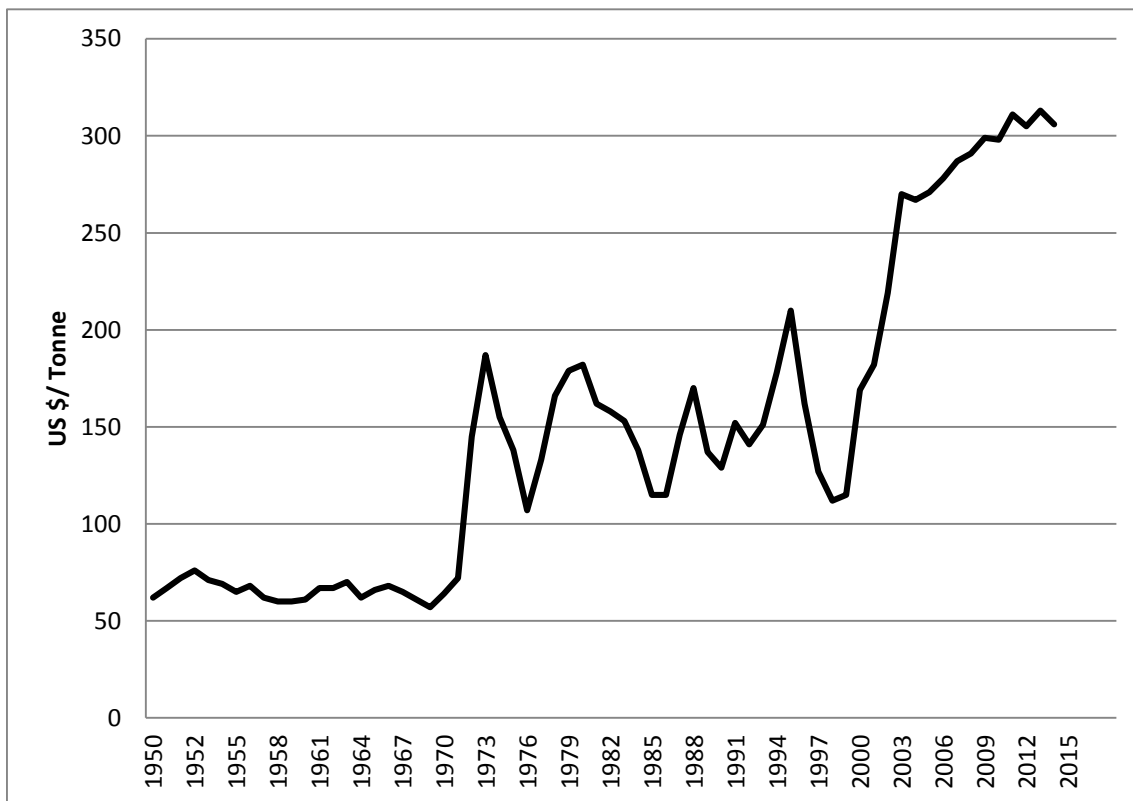
International Price trend of US Hard Red Winter (HRW) wheat FOB Gulf

As mentioned earlier, food grain prices remained somewhat static till 1970, and then shoot up to unexpectedly very high peaks because of oil shock, US HRW wheat prices too had a quantum leap and in 1973, it reached to US \$145 from US \$ 72 in 1972, just an year ago. It was more than double of the price a year before. Immediate next year also witnessed another surge and it was

priced at US \$ 187 in 1974. This price was recorded all time high price till the year 1996 when price for US HRW had touched US \$ 210 per tonne. Afterwards, prices have been bit stable and no such huge variations in the prices had been observed. In recent years US HRW has been hovering around US \$ 300 per tonne. It can be seen by the following figure:

Figure 1

Annual Series of International Price of US HRW Wheat



Source: Table 1

International Price Trend of Thai Rice (5% Broken) at FOB Bangkok

International price of Thai rice (5% broken) at FOB Bangkok shows some cyclic movement around a horizontal line. The fluctuations were very violent during the

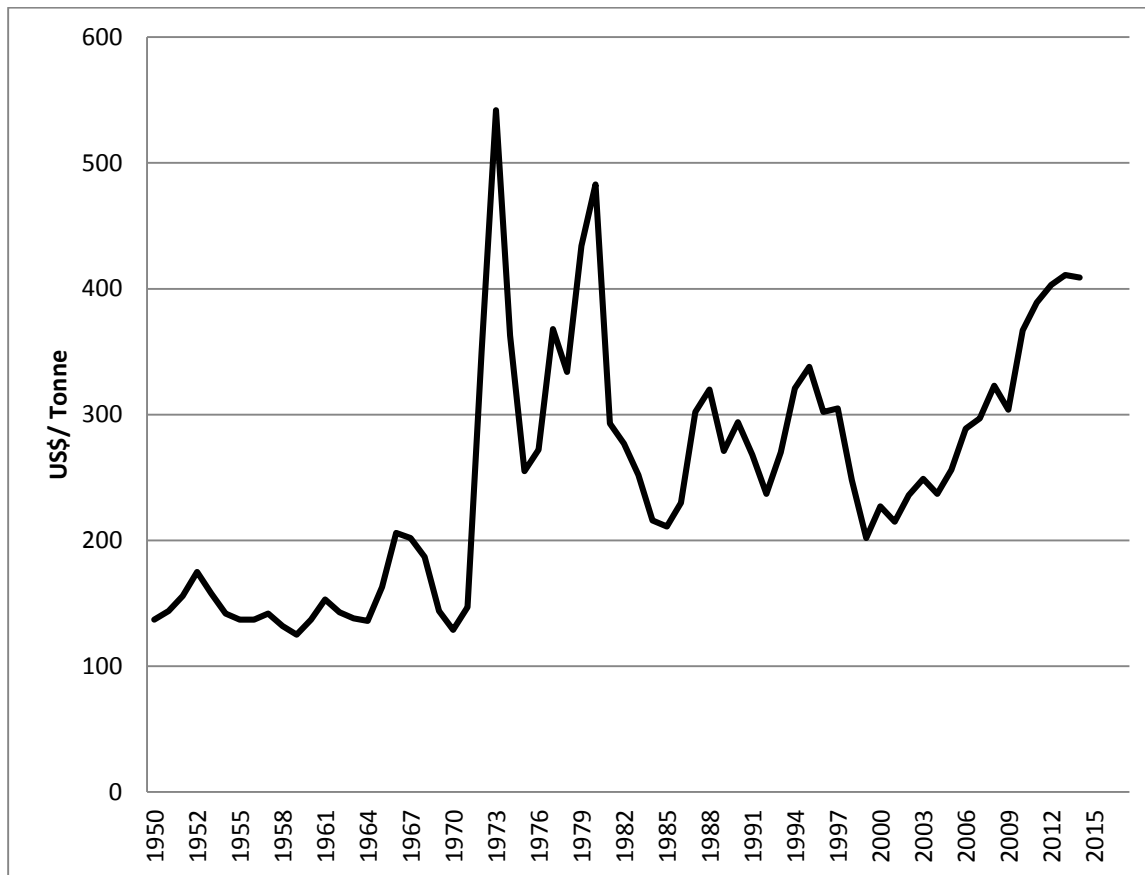
decade of 1970s but became somewhat mild in the subsequent period. Rice prices in US \$ did not show any particular trend. In the post WTO period, rice prices have shown a decline which seems to be a recurrence of their past behavior. Recent world prices of

the rice are at around US \$ 410 per tonne. Prices have been moving up and down, but steep increase of 1970 was never repeated and somehow stabilized prices ruled the

international market trading. The figure is representing the movement of prices is given below:

Figure 2

Annual Series of International Price of Thai Rice (5% Broken)



Source: Table 1.

It is cleared from the figure 2 that the certain unexpected peaks appeared in and around 1970-1975 and 1980-1985. Year 1977, 1986 and 2001 had correction and downward revision of prices, and after 2000, prices have been on increasing side with little up and downward movements. But the recent prices too are far below than the prices of 1970s.

International Price Trend of Cotton

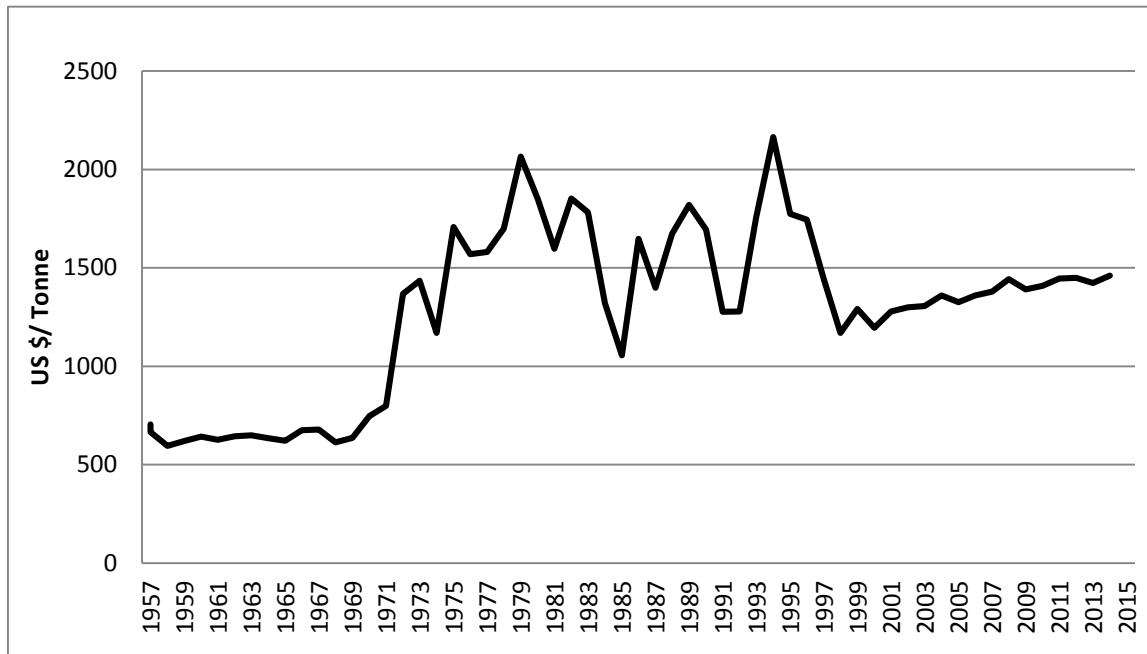
Absence of authentic and reliable data regarding international prices of cotton for the initial years 1950-1956 made it difficult to establish a trend of the prices of cotton in the international market place. Recorded prices of cotton at Liverpool index were available from the year 1957 onwards and the

same have been taken into consideration for finding the trends in the cotton prices. It can

be seen by the following figure:

Figure 3

Annual Series of International Price of Cotton Liverpool Index



Source: Table 1

After through survey of price data, Liverpool prices of cotton, which represent prices of cheapest five of ten varieties, were chosen to represent international prices of cotton. The prices moved in a narrow range of us \$ 596 and \$799 per tonne from 1957 to 1972 and rose by 71% in 1973 to mark a new trend. International price of cotton since then fluctuated around long run average of US \$ 1578 per tonne till 2000. The average price has been around US \$ 1375 to US \$ 1400 per tonne from the year 2000 to 2015 with latest price being US \$ 1460 per tonne.

V Conclusion

To sum up, it has observed that international prices of agricultural commodities are highly volatile and are characterized by cyclical variations. Among these, prices of food grains and cotton have fluctuated around a static mean. However, due to WTO commitments, domestic produces can't be protected from international price shocks. If such shocks are transmitted to farm level, it would destabilize the crop pattern and supply. Since vast majority of the Indian farmers is either small or marginal, they do not have resources and capabilities to change their cropping patterns in a short period as

necessitated by the change in international prices. Since under WTO obligations, temporary imports and price shocks can't be checked, there is need to develop mechanism to regulate the unwanted imports and exports.

Increase in the world prices adversely affects the welfare of least developed countries that are net importer of food grains. India is a net exporter of agricultural products. Hence if all these related distortions are removed India would stand to gain in her share of agricultural exports. Moreover a strategy to promote exports is also highlighted. It is suggested that to improvement in the quality of agricultural products. India has to develop brand quality of these agricultural products and they have also suggested that India has to develop a team of expert having excellent knowledge of legal economics and political aspect of various WTO provisions to protect the countries interest in the WTO meetings and conferences.

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