

Gap Analysis of MSP and Harvest Price of Principal Crops in Hisar District of Haryana

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ABSTRACT

The present study "Gap analysis of MSP and harvest price of principal crops in Hisar district of Haryana state" was carried out during 2018-19. The Secondary data on Farm Harvest Prices (FHP) and Minimum Support Prices (MSP) of major food crops were collected from Statistical Abstract of Haryana, Directorate of Marketing and Inspection and Commission for Agricultural Cost and Prices for the period 1997-98 to 2017-18. The effectiveness of the price policy during the harvest periods was examined by the deviations of FHP from MSP and classified into positive and negative deviations (to examine whether market prices ruled higher or lower than the minimum support prices). Gap between FHP and MSP resulted that in mostly cases FHP is higher than MSP because higher demand due to more procurement for central part than supplies does not allow the market prices to fall below MSP. In recent years, market prices ruled higher than MSP. The impact of MSP on area is higher but there is non-significant impact of MSP on productivity of food crops.

Keywords: MSP, Gap Analysis, FHP

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INTRODUCTION

The behaviour of agricultural prices during the last decade reveals in retrospect the many imponderables inherent in our economic life and also perhaps the limitations of planning in a mixed economy. Agricultural prices have shown large fluctuations during many of these years. They moved down during the First Plan, leading to the depression of 1955-56. The Second Plan, which began with agricultural prices still ruling at relatively low levels, saw considerable rise in them towards the end. The price rise has been accelerated during the Third Plan with prices of most agricultural commodities reaching all-time high levels during the third year of the Plan. It is argued sometimes that rise in agricultural prices measured by annual average prices does not represent the price situation faced by the farmers in the country. Most of the farmers, their ability to hold stocks being poor, dispose of their produce immediately after the harvest when the rush of supplies to the market results in low prices. And once the produce leaves the farm, whatever rise in price occurs does not benefit the farmer. The price that really matters to the farmers is thus the harvest price. Therefore, it is pertinent to examine whether the level of harvest prices has risen along with the rising trend of agricultural prices during the last few years

Minimum Support Price (MSP) is a fundamental component of Agricultural Price Policy of India. It targets to corroborate support price to farmers and reasonable prices to consumers through Public Distribution System (PDS) (5). The price support system was conceptualized

during pre-green revolution period as a governmental mechanism for incentivizing farmers to acclimatize new technologies [3 & 6]. Later, Agriculture Price Commission (APC) was established in the year 1965, based on Jha committee recommendations to recommend support prices for crops after considering the cost of cultivation [4]. It was reflected in the revised terms of reference of Agricultural Prices Commission (which was later renamed as Commission for Agricultural Costs and Prices) with a shift from maximizing the production to developing a production pattern regular with the overall needs of the economy [1]. The Commission for Agricultural Costs and Prices (CACP) recommends Minimum Support Price (MSP) for 26 agriculture crops i.e. cereals (paddy, wheat and ragi), coarse cereals (barley, jowar, bajra and maize), pulses (gram, arhar/ tur, moong, urad and lentil), oilseeds (groundnut, rapeseed/mustard, toria, soyabean, sunflower seed, sesame, safflower seed and nigerseed), raw cotton, raw jute, copra, de-husked coconut, sugarcane, VFC tobacco. Broad objectives of the Agriculture Price Commission (APC) are to ensure remunerative prices to farmers and affordable prices to consumers and promote sustainable use of all resources towards socially desirable crop mix [5]. The worse situation of the price policy as far as concerned with the area allocation under gram crop because the area has been decreasing in spite of providing more prices for the crop [2].

MATERIAL AND METHODS

The major food crops i.e. paddy, bajra, wheat, mustard, cotton and gram were selected purposively for the study. Study was based on secondary data collected from Statistical Abstract of Haryana, Directorate of Marketing and Inspection (DMI), Ministry of Agriculture and Farmers Welfare Government of India (Faridabad), CACP, other published and unpublished sources. The yearly time series data on prices of major food crops were collected for Haryana state covering period from 1996-97 to 2017-2018.

Gap between FHP and MSP of major food crops in Haryana:

The study is based on the secondary data on farm harvest prices and minimum support prices of major food crops in Haryana state. Based on the data availability, the time period chosen was 1997-98 to 2017-18. To study the effectiveness of the price policy during the harvest periods, the deviations of Farm Harvest Prices (FHP) from the Minimum Support Prices (MSP) were worked out and divided into positive and negative deviations to examine whether market prices ruled higher or lower over the minimum support prices. The negative deviations reflected ineffectiveness of MSP policy for producers. The formulae used for the mean absolute negative/positive deviation was as follows:

$$\text{MAPD or MAND} = 1/n \sum |FHP_i - MSP_i|$$

If, FHP > MSP = Positive deviation (PD)

FHP < MSP = Negative deviation (ND)

Where, MAPD = Mean absolute positive deviation,

MAND = Mean absolute negative deviation,

FHP = Farm harvest price,

MSP = Minimum support price, and

n = Frequency of positive or negative deviations.

These deviations were adjusted with MSP in order to examine the degree of their deviation from the MSP. The formulae used for the adjusted mean negative/positive deviation was as follows:

$$\text{AMPD or AMND} = 1/n \sum (|FHP_i - MSP_i| / MSP_i) * 100$$

Where,

AMPD = Adjusted mean positive deviation, and

AMND = Adjusted mean negative deviation

The significance of gap between FHP and MSP of food crops was tested by two sample *t* test.

$$t = \frac{(\bar{x} - \bar{y}) - (\mu_x - \mu_y)}{\frac{s \sqrt{\frac{1}{n_x} + \frac{1}{n_y}}}{\sqrt{n_x + n_y}}}$$

Where,

\bar{x} = mean of FHP of size n_x

\bar{y} = mean of MSP of size n_y

S_p^2 = pooled variance

$$s^2 = \frac{(n_x-1)s_x^2 + (n_y-1)s_y^2}{(n_x-1) + (n_y-1)}$$

Impact of Minimum Support Prices (MSPs) on major food crops in Haryana To study the impact of lagged Minimum Support Prices (MSPs) on the acreage allocation, production and productivity of food crops in Haryana, linear and logarithmic forms of equations have been fitted. The food crops included wheat, rice, bajra, barley, gram, maize and rapeseed/mustard for study purpose. The previous year's MSPs generally influence the Producer farmers' decision on acreage allocation for the current year. The linear type of equation has been used as:

1. Linear regression equation:

$$A_t = a + b P_{t-1}$$

$$P_t = a + b P_{t-1}$$

$$Y_t = a + b P_{t-1}$$

The logarithmic type of equation has been used as:

2. Logarithmic regression equation:

$$\text{Log } A_t = \text{log } a + b P_{t-1}$$

$$\text{Log } P_t = \text{log } a + b P_{t-1}$$

$$\text{Log } Y_t = \text{log } a + b P_{t-1}$$

Where, A_t = Area of food crops at (t)th period,

P_t = Production of food crops at (t)th period,

Y_t = Productivity of food crops at (t)th period,

P_{t-1} = Minimum Support Prices of food crops taken in per quintal at ($t-1$) th period.

Linear type of function found a better fit than logarithmic function.

RESULT AND DISCUSSION

The effectiveness of MSP policy for food crops in Haryana is presented in Table 1. Wheat experienced positive deviations 13 times in 20 years during 1997-2017; negative for one year and there was no deviation for six years out of total 20 years of study. This means that the average FHP was equal to or ruled higher than MSP most of the times. The adjusted difference (positive) between MSP and FHP was as low as 65 per cent of MSP and the negative difference was 30 per cent, in case of wheat. Gram shows positive deviations all the times under study. This means that the average FHP was higher than MSP during study. Mustard experienced positive deviations 14 times in 20 years during 1997-2017 and negative for six years. This means that the average FHP was higher than MSP most of the times. Bajra experienced positive deviations 16 times in 20 years during 1997-2017 and negative for four years. This means that the average FHP was higher than MSP most of the times. In case of Paddy, positive deviations 15 times in 20 years during 1997-2017 and negative for five years. This means that the average FHP was higher than MSP most of the times. Similar findings were also observed by Alia et al. [2].

Table1: Deviation of Market Price vis-à-vis Minimum Support Price of major food crops in Haryana (1997-98 to 2017-18):

Crop	Negative Deviation				Positive Deviation				No Deviation	
	MAND (Rs/q)	AMND	Freq.	%	MAPD (Rs/q)	AMPD	Freq.	%	Freq.	%
Wheat	-7.32	-1.44	1	5	31.10	3.90	13	65	6	30
Gram	0.00	0.00	0	0	572.68	31.59	20	100	0	0
Mustard	-90.67	-4.87	6	30	408.63	21.77	14	70	0	0
Bajra	-62.91	-12.84	4	20	56.70	8.84	16	80	0	0
Paddy	-39.26	-4.90	5	25	98.41	9.65	15	75	0	0
Cotton	-115.04	-7.09	3	15	786.99	29.54	17	85	0	0

MSP Trends for selected crops (1997-98 to 2017-18)

The minimum support price (MSP) acts basically as an insurance cover to cultivators against the possibility of postharvest crash in market prices. More positively, it serves as an incentive to farmers and stimulates higher production by encouraging the use of modern inputs and by inducing investment in cost-reducing technology. The MSP system was started in India in the mid-1960s to create a favorable incentive environment for the

adoption of HYVs of wheat and rice, which were seen to possess a vast potential for raising grain production. MSP for all the selected crops is showing increasing linearly with a high value of R^2 . i.e; for Paddy (0.93), Wheat (0.94), Gram (0.89), Rapeseed (0.90), Bajra (0.92) and Cotton (0.90) (Table:2). Similar findings were also observed by Tripathi [7].

Table 2: Trends in MSP for selected crops (1997-98 to 2017-18)

Crop	Equation	R^2	Constant	b1
Paddy	Linear	0.93	203.3	60.75
Wheat	Linear	0.94	292.1	63.61
Gram	Linear	0.89	243.9	164.2
Mustard	Linear	0.90	513.1	142.1
Bajra	Linear	0.92	163.4	56.61
Cotton	Linear	0.90	1023	154.8

CONCLUSION

The gap analysis in which deviations of FHPs from MSPs of food crops results in positive deviations (FHP ruled higher than MSP) in most of cases in Haryana during 1997-98 to 2017-18. The government intervention was very strong and did not allow the FHPs to move away from MSPs in a significant manner despite large marketed surplus. The increase in MSP over the previous year brought additional area under food crops. In all the selected crops average FHP was higher than MSP most of the time during the study period. The state intervention in terms of announcing MSP and procurements in agricultural markets started in mid-1960s due to the imperfection in passing right price signals to producers for increasing production under the environment of gross food deficiency. The era of administered agricultural prices, especially in grains, is still continuing despite the fact that India has achieved food self-sufficiency and market infrastructure has developed significantly over the years.

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