

## Estimating Input Demand and Output Supply on Wheat Farms in Haryana State of India

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*The profit function approach was used to derive the factor demand and the output supply functions. The normalized quadratic profit function and demand equations were estimated jointly using the SUR estimation technique. The output supply equation is estimated residually from the estimated model consisting of normalized profit function and demand equations. Farm level panel data are used and the model is estimated assuming that the intercept terms vary across the farms. The theoretical framework fits the data well. The empirical results support the hypothesis of profit maximization. The own price elasticities of demand for human labour ranged from  $-0.46$  in zone 1 to  $-0.29$  in zone 2 and for fertilizer demand, it ranged from  $-0.42$  in zone 3 to  $-0.21$  in zone 1. The own price elasticity of wheat supply was found to be very small in all the zones. Land has a strong influence on wheat supply and input demand. At the observed price structure, fertilizer demand is expected to increase in all the zones which may be due to the fact that the negative price effect will be outpaced by output price. The human labour demand is expected to decrease in zone 1 and zone 2 at the observed price structure.*

### I Introduction

The prices of agricultural commodities and agricultural raw materials are the key factors in the price structure of an agrarian economy. Lower prices of output act as a deterrent in the utilization of inputs while higher output prices may bring about additional utilization of resources for maximization of profit whereas the rising input prices discourage input use and vice-versa. Indeed, the farmer's decision about the allocation of resources is guided by the relative changes in input and output prices. For designing an effective price policy, it is necessary to have knowledge about the degree of responsiveness of the demand for factors and the supply of products to relative price changes. Any changes in input and output prices affect resource allocation/ demand and output supply simultaneously, as both are interrelated. The focus of this paper is to study the impact of input and output price changes on the demand for inputs and the supply of output of wheat farms in Haryana state, India. To fulfill this objective, the price elasticities of the demand for inputs and the output supply have been calculated. Estimates of elasticities for input and output supply have already been reported for Indian agriculture (Sidhu and Baanante, 1979; Sidhu and Baanante, 1981; Chand, 1986; Kumar *et.al*, 1981; Goyal, 1992

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