

## Demand for Cereals in Seventh Plan

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The objective of this paper is to estimate the demand for cereals in 1989-90, which happens to be the terminal year for the Seventh Five Year Plan and thus, to have a check to the figures presented in the plan document.

Demand for a commodity by an individual depends on (i) relative price structure; and (ii) level of income (or total expenditure). In a cross section sample, all the individuals face the same prices<sup>1</sup> and hence relative prices may be assumed to be constant. Thus quantity demanded for a commodity depends only on the levels of income (total expenditure). In this paper we have projected demand based on cross-section Engel function using a slight variant of the method proposed by Iyenger (1960)<sup>2</sup>. The details are given in the subsequent paragraphs.

The basic data for this study was taken from the central sample of 32nd round (1977-78) of National Sample Survey Consumer Expenditure<sup>3</sup>. Among the various functional forms, log-log-inverse form was chosen to estimate the demand function<sup>4</sup>.

$$\ln y_i = a + b \cdot \ln x + c \cdot x^{-1} + u,$$

where,  $y_i$  = quantity of  $i^{\text{th}}$  cereal

$x$  = total per capita expenditure

$a, b, c$  are constants.  $u$ . the error term.

This functional form was estimated for rural and urban sectors separately using weighted least squares with number of persons in each expenditure class as weight.

The data on per capita expenditure was also used to fit a lognormal distribution<sup>5</sup>.

Now, suppose that the expenditure ( $x$ ) follows a log-normal distribution  $\Delta(\mu, \sigma^2)$ . Then average demand for a commodity is given by