

TWO PRODUCTION FUNCTIONS ESTIMATED FOR ANDHRA PRADESH DATA

V. V. BHANOJI RAO *

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IN this paper two production functions are estimated for Andhra Pradesh for the year 1957. In both the cases the data are taken in value terms. Thus the three variables are : (1) value added by manufacture; (2) wages and salaries; and (3) value of total productive capital. In the first case, the data relates to the industrywise figures and, in the second case, to the district-wise figures. In other words, in the first case, against each industry the three variables are taken and, in the second case, they are taken against each district.

The method : The Cobb-Douglas production function can be written as

$$Y = a X_1^b X_2^c \quad \dots \quad (1)$$

where Y = value added by manufacture, X_1 = Wages and salaries, and X_2 = value of total productive capital; and a , b and c are constants. Taking common logarithms both sides (1) may be written as :

$$y = a + b x_1 + c x_2 \quad \dots \quad (2)$$

where $y = \log Y$, $x_1 = \log X_1$ and $x_2 = \log X_2$

By the application of multiple regression analysis, the constants in (2) are estimated. To measure the proportion of variability in the dependent variable explained by the explanatory variables, the coefficient of multiple correlation is computed. After finding the respective standard errors, the exponents are tested for significance.

The data : The data used in this paper are taken from the Report of the *Census of Manufacturing Industries - Andhra Pradesh, 1957*. The definitions of the terms are as follows :

The term "wages" has been used in the same sense as in section 2 (VI) of the Payment of Wages Act, 1936, and includes any bonus or additional remuneration or payments made to persons when their services are terminated, etc.; and benefits include various benefits over and above wages, such as free or subsidized housing, food-grains at concessional rates, etc.; salaries are payments made to those other than wage earners.

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