

A Simultaneous Equations Econometric Model for the Study of the Impact of Inventory on Factors of Production.

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A simultaneous equations econometric model is specified and estimated with a generalized Cobb-Douglas production function based on three inputs namely Labour, Capital and Inventory. It is estimated by using Indirect Least Squares estimation. The impact of inventory on factors of production is studied through the derived demand equations for the factors of production. Under the empirical investigation, the proposed model is estimated by using the cross section data on different industry groups in India for the year 1985-86.

I Introduction

In the present paper a simultaneous equations econometric model is specified and estimated for a profit maximizing firm operating with a Cobb-Douglas production function based on three inputs namely, labour, capital and inventory. This model differs from the traditional Cobb-Douglas production function model considered in the literature. It is estimated by using Indirect Least Squares estimation. The derived demand equations for the factors of production are also estimated and hence the impact of inventory on factors of production is studied. Under the empirical investigation, the proposed model is estimated by using cross section data on different industry groups (specified in the R.B.I. Bulletin) in India for the year 1985-86.

The main contributions in the literature with regard to the simultaneous equations estimation of Cobb-Douglas production function model are given by Hoch (1958), Nagar (1960), Kmenta and Joseph (1963), Walters (1961, 1963), Kmenta (1964), Zellner, Kmenta and Dreze (1966) and De Min Wu (1975).

The order of presentation is as follows : In Section II, the model is formulated and its reduced form is also obtained.