

Errors of Projection in Input-Output Model and its Correction: An Experiment with Indian Data

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The projection of sectoral outputs of an economy is carried on the basis of the Input-Output coefficient matrix of the base period. From the different empirical tests made it appears that errors are likely to arise in the projection of economic variables through Input-Output Model. This is so more in developing countries like India because of the rapid economic change taking place in these countries. It is, therefore, necessary to correct the projected values to arrive at more reliable estimate. Various attempts have been made to find out methods for estimation of the size of the error in Input-Output model. Of these attempts, Theil's contribution is worth mentioning. The present paper will present certain modification of Theil's model and experiment with this modified model is done with Indian data.

I Introduction

The projection of sectoral outputs of an economy is carried out on the basis of the input-output coefficient matrix of the base period. Therefore, the degree of stability of the technical coefficient especially in developing countries needs to be examined as this would indicate the reliability of the input-output table for purposes of prediction. The technical coefficients would change if the economy adopts a new technology or if a change occurs in the scale of production. Projection work based on input-output model raises the problem of change in the input-output coefficient over time. This is so more in developing countries like India because of the rapid economic change taking place in these countries. The object of this paper is to look into the problems associated with the errors of prediction in input-output model.

Various attempts (Christ, 1955; Dorfman 1954; Hurwicz, 1955). Theil (1966), Chakraborty (1972), Ghosh, Sarkar and Chakraborty (1974, 1976) have been made to find out methods for estimation of the size of error and formulae of correction of forecasting error in input-output model. Of these attempts, Theil's contribution is worth mentioning. However, Theil's model has certain limitation. The present paper will present certain modification of the Theil's model and experiment with this modified model is done with the Indian data. The paper will be organized as follows. The section II will discuss the nature of forecasting error in the input-output model. Section III will outline the model of Theil. Section IV will present a modified approach. Experiment of the model with the Indian data and results are discussed in Section V and VI respectively. Section VII will conclude the paper.

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