

Factor Contribution and Productivity Growth in Underdeveloped Agriculture: A Comparative Analysis of Liberalising India

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Productivity growth is essential for economic enhancement of any country. However, it is empirically quite perplexing to estimate it. The standard practice is to estimate productivity changes by incorporating a time variable within the production function (Baltagi and Griffin, 1988; Kumbhakar and Hesmati, 1996; Stevenson, 1980 among others). This provided a measure of overall technical change often coined as Total Factor Productivity (TFP). However, the problem with TFP is its inability to decompose itself into various factors specific effects. The alternative is to visualize technical change within a Factor Augmenting (FA) approach (Beckmann and Sato 1969, Sato and Beckmann 1969, Kumbhakar 2002, 2004). This approach enables us to disentangle different factor contributions to overall technical change. Application of this methodology to the Indian state of West Bengal reveals a lopsided technical change with sufficient amount of surplus labour and inefficient capital use. Serious policy action is necessary to remedy this situation. We also compare the results with the parametric frontier methodology. The results are broadly the same.

I Introduction

Productivity growth is essential for economic enhancement of any country. In the recent literature, there has been a vigorous debate as to the possibility of measuring such changes empirically. One of the major problems in applied research is to disentangle its various components. The standard practice is to estimate productivity changes by incorporating a

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