

## **Decomposition Analysis of Total Factor Productivity Change in India's Foodgrain Production: A Malmquist Productivity Index Approach**

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**Abstract:** This study estimates the total factor productivity change in India's foodgrain production during the period 1990-2017 by using the non-parametric data envelopment analysis technique (DEA), viz., Malmquist productivity index (MPI). It has been observed that total factor productivity change is very low and found to be very volatile too. The mean value of the total factor productivity (TFP) index for the study period is estimated to be equal to 1.001(0.1%) which signifies that the growth rate in foodgrain production is reaching at the level of stagnation. Results reveal that TFP growth varies from year to year and the main factor that alters the level of TFP was technological change. This study indicates that priority must be given to address the instability issue by developing new and accessible modern technology that in turn helps in raising the level of total factor productivity as far as India's foodgrain production is concerned.

**Keywords:** Foodgrain production, Malmquist productivity index, Technical change, Technical efficiency change, Total factor productivity

**JEL Classification Number:** C14, C23, D24, Q10

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