Abstract

This study analyzes the relationship between agricultural total factor productivity and rural health for fifteen major states of India, for the years 1983-84 to 2005-06. In the first step, total factor productivity in agriculture is estimated using the sequential Malmquist TFP index. Theory and evidence are adduced to demonstrate how this index is superior to those used in the earlier literature. Productivity improvements and technical change are found to be marked in very few Indian states, while efficiency decline is observed in several states. All states except Odisha exhibit improvement in productivity. There are ‘medium’ to ‘large’ productivity gains occurring in Haryana, Kerala, Punjab, Tamil Nadu, Assam and West Bengal. The states of Andhra Pradesh, Bihar, Karnataka, Maharashtra, Rajasthan, Uttar Pradesh, Gujarat and Madhya Pradesh exhibit ‘small’ to ‘marginal’ productivity improvements. Second, since the concept of health is too complex to capture in terms of a single measure, a multi-dimensional determinants-based health index is constructed for rural India, with its sub-indices being the income index, health infrastructure index and health care utilization index. The rural health index reveals substantial improvement in rural health from the 1980s through the mid-1990s, with a slowing down thereafter. The states of Bihar, Madhya Pradesh, Assam, Uttar Pradesh, West Bengal, Odisha and Rajasthan score the lowest over the sample period. Finally, I study the relationship between rural health and total factor productivity in Indian agriculture. The empirical results suggest a strong positive impact of health on total factor productivity, even after controlling for other covariates such as education, high-yielding-variety seeds, and extension services. The results are shown to be robust to alternative specifications of the estimated relationship, correction for any endogeneity biases that may obtain, and alternative estimation methods. A 1% increase in the health variable is likely to raise agricultural productivity performance in the range of 0.22% to 0.28%.