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Contract Farming Effects on Technical Efficiency of the Export-Oriented Rice Production Sector in Vietnam

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Abstract

Measures to increase technical efficiency in emerging and developing economies' agriculture receives great attention by governments, NGOs, private firms and researchers in times of urgent need for poverty reduction and growing resource rivalry in the world. In this regard, there have been a large number of research studies analysing the determinants of technical efficiency (TE) in agricultural production. Some of these studies point on the role of contract farming (CF) participation as an important facilitator of technical efficiency. This study aims at evaluating the influence of CF participation on farming technical efficiency and productivity in a developing country context. A cross sectional sample of 246 Vietnamese export-oriented rice households of the Mekong River Delta is used to provide empirical evidence of the effects of contractual farming (CF) schemes on technological adoption and technical efficiency. Propensity score matching and stochastic frontier model with correction for sample selection are used to control for potential bias arising from observable and unobservable variables respectively. Subsequently we used a meta-frontier framework in order to estimate the effects of contractual schemes on the farms' technology gap ratio, their group technical efficiency and their meta-technology technical efficiency. Our results show that CF has a positive impact in the adoption of better technologies and inputs improving the overall productivity. The group specific technical efficiency is lower for CF farmers in the short run, likely still in the learning process of those new technologies and inputs. This study contributes to the literature of impact evaluation by showing how the integration via contractual schemes can enhance farmers' productivity and consequently their livelihoods.

Keywords: Contract farming, export-oriented rice sector, stochastic frontier analysis, technical efficiency, Vietnam