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Impacts of Rice Contract Farming System on Smallholders in Myanmar

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Abstract

Myanmar government has encouraged the rice sector development along the supply chain with the investment of private rice specialisation companies (RSCs) with the resource providing contract system at major rice production areas since 2008. The activities of RSCs are providing seasonal loans, credit in kind in terms of quality seed and fertilisers, extension services and farm mechanisation services, purchasing paddy at the prevailing market price, and providing milling and trading facilities. Cross-sectional data from 220 contract smallholders and 183 non-contract smallholders was collected in Pyay and Danuphyu townships where two RSCs are actively implementing contract farming scheme during 2014-2015 rice production season. Endogenous switching regression model was applied to simultaneously estimate the decision to participate contract scheme and its implication on annual farm and household incomes of smallholders. The age and education level of household head, production shocks during last five years, participation into farmer organisation, and frequently contact with extension services were influencing the decision of smallholders to participate contract scheme. Statistically significant value of region dummy also showed the contract participation decision would be significantly different between two study townships. The correlation coefficients for contract smallholders (ρ_{CF}) and noncontract smallholders (ρ_{NCF}) were both positive but only (ρ_{CF}) were statistically significant, indicated that there were self-selection among contract smallholders. The significance of the likelihood ratio tests for independence of equations also indicated that the participation in contract scheme had joint dependences with annual farm and household incomes for smallholders. The average treatment effects of contract participation on annual farm and household incomes for contract smallholders (ATT), 0.23 and 0.17 respectively and those for non-contract smallholders (ATU), 0.12 and 0.09, respectively indicated that contract farming would increase 23% annual farm income and 17% household income for contract smallholders and 12% annual farm income and 9% household income more for non-contract smallholders if they join the contract scheme. The base heterogeneity effects showed that there were some important factors that skilled the actual contract smallholders even if they were without contract system had better conditions than the non-contract smallholders, and these factors could have also influenced on the contract participation decision. Transition heterogeneity effects also revealed that contract smallholders achieved significantly higher impacts of contract system on their annual farm and household incomes compared to non-contract smallholders. Overall findings indicated that contract farming had positive and significant impacts on livelihood of smallholders.

Keywords: Contract farming, endogenous switching regression model, farm income, household income, Myanmar, smallholders