Tropentag, September 17-19, 2014, Prague, Czech Republic

"Bridging the gap between increasing knowledge and decreasing resources"

Determining Technical Efficiency of Farm Households in Vietnam

Huynh Nhu Phan, Duc Loc Nguyen, Rattiya S. Lippe, Ulrike Grote

Leibniz Universität Hannover, Institute for Environmental Economics and World Trade, Germany

Abstract

Improving agricultural efficiency is important in enhancing economic growth as well as promoting poverty reduction in developing countries. This approach has become very relevant in the context of Vietnam where the livelihoods of two thirds of the population mainly rely on farming activities. However, the recent decrease in agriculture growth severely impacts on small farm households, making them more vulnerable to poverty. Appropriate schemes to improve agriculture production, therefore, should be taken into account for enhancing the efficiency of this sector. This study aims at determining the technical efficiency of rice, coffee and maize sectors, which are the main crops in three provinces Daklak, Thua Thien Hue and Hatinh of Vietnam. The analysis is based on the comprehensive household data set from 2013 of the German Research Foundation project "Impact of shocks on the vulnerability to poverty: consequences for development in emerging Southeast Asian economies". The estimated results of the Stochastic Frontier Approach firstly revealed that the average technical efficiency of rice, corn and coffee are not very high as compared to other studies. They range at around 50 %, 49 % and 59 %, respectively. The differences of the crops' technical efficiency scores between the three provinces were examined by using the t-test. Secondly, the determinants of the technical efficiency were obtained by applying a tobit model to identify reasonable solutions to improve technical efficiency for specific province and different geographic regions. These were the age, education, amount of remittance which they receive from friends or relatives, the share of non-farm income, social organisation of the member and topographical zone.

Keywords: Stochastic frontier approach, technical efficiency, Vietnam

Contact Address: Huynh Nhu Phan, Leibniz Universität Hannover, Institute for Environmental Economics and World Trade, Lodyweg1, 30167 Hannover, Germany, e-mail: huynhnhu2901@gmail.com