



Tropentag, September 14-16, 2022, hybrid conference

“Can agroecological farming feed the world?
Farmers’ and academia’s views”

Voluntary sustainability standards and efficiency of coffee production: the case of smallholder producers in Honduras

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Abstract

Sustainable coffee production has been believed to have the potential to enhance the economic, social, and environmental performance of farmers. However, coffee production is constantly under different economic, social, climatic, and international political pressure, which affect coffee production and therefore the living conditions of smallholder coffee farmers. Different Voluntary Sustainability Standards (VSS) indicate that their main goal is to improve the livelihood of smallholder coffee producers through certain pathways and practices that have to be adopted at the farm and household level. Using primary survey data of 659 certified and non-certified coffee producers in Honduras with data from the coffee year 2015/2016, this paper tries to determine the impact of VSS on the efficiency in the use of inputs and production of outputs, and the socioeconomic implications on Honduran smallholder coffee producers, against a comparable group of non-certified farmers, using Covariate Balancing Propensity Score (CBPS). Stochastic Frontier Analysis model for the production function is used to compute the Technical Efficiency of coffee producers. Preliminary results show that the mean technical efficiency is 51.6% and 63.9% for certified and non-certified coffee producers respectively, indicating the existence of a substantial inefficiency in the coffee production with the certified farmers. Despite that, certified farmers are found more profitable than conventional producers. The rate of return was found to be 2.9% and 1.7% for the certified and noncertified farmers respectively. Tobit model for the determinants of TE result depicted that age of household head, education level, land size, access to credit, distance to the plot and market, and decision making are among the main factors that significantly affect TE of both certified and non-certified farmers in either way. Based on the findings, enhancing education opportunities, better infrastructural developments for better market access and farm management, and expanding credit access opportunities could improve the efficiency enhancement of the study area. Additional models are being developed to robustness the analysis of this paper.

Keywords: Coffee production, efficiency, Honduras, smallholder coffee producers, stochastic frontier analysis, Tobit model, voluntary sustainability standards