Farm Production and Market Access of Certified Coffee Farmers in Dak Lak, Vietnam

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Introduction

Rural livelihood augmentation has long been a crucial challenge for the effectiveness of Vietnamese government policies in the coffee sector. Although Vietnam remains the world’s most competitive coffee producers, there now are still thousands of rural farmers struggling against the extreme coffee price volatility and losing hope to improve their primary source of income. Thus, the sustainable future of the industry is being questioned upon various problems such as climate change and deforestation, intensive conventional farming, aging coffee trees, unbalanced power relation between marketers, spot market transaction and the traditional price mechanism, and foremost the small-scale production system. In this regard, the Vietnamese government has launched the sustainable-certified coffee program of which coordinating production and distribution with leading coffee processors/exporters are believed to bring better market access, new product development (standardized and higher quality), and improvement of farmers’ welfare. However, these new institutional arrangements have not only gained successes but also many failures. Therefore, the overall objective of our study was to discuss the future development of sustainable-certified coffee in terms of production efficiency and factors that influence farmers’ access to high-value markets in Dak Lak.

Methodology

Stochastic Frontier Production Model

The technical inefficiency effects (Coelli 1995, Coelli and Battese 1995) are defined as:

\[ y_i = \delta_0 + \delta_1 x_{i1} + \delta_2 x_{i2} + \delta_3 x_{i3} + \cdots + \delta_8 x_{i8} + \lambda_{1i} + \lambda_{2i} + \cdots + \lambda_{ni} \]

where \( y_i \) refers to the ith coffee farm in the sample; \( \lambda_{1i} \) is the coffee yield (ton/hectare); \( x_i \) are input variables per hectare used by ith farm

Seemingly Unrelated Regression Model

The SUR model (Zellner 1962, Zellner and Huang 1962) of market preference consists of three single equations to simultaneously estimate the sale proportion for each market (processors/exporters, buying agents, local traders) as the following:

\[ PCSR_i = \alpha_0 + \beta_2 TCA + \gamma_1 \text{farm DSC} + \epsilon_i \]
\[ PCSA_i = \alpha_0 + \beta_2 TCA + \gamma_2 \text{farm DSC} + \epsilon_i \]
\[ PCST_i = \alpha_0 + \beta_2 TCA + \gamma_3 \text{farm DSC} + \epsilon_i \]

Results

The sustainable-certified farmers have been exercising poor farm practices such as excessive use of fertilizer, over-irrigation, improper pruning, pesticide overuse, and choice of old varieties in replantation process. The results from SFA show that sustainable coffee farmers in Dak Lak obtained the average technical efficiency level of 88.24%. The technical efficiency ranged from 45.5% to 98.0%, hence sustainable coffee farmers could reach 9.97% of cost saving if they achieve the technical efficiency level of their most efficient counterparts. Education, household size, cooperative membership, and credit had significant and positive effects on technical efficiency. Certified coffee farmers are marketing their coffee beans to different markets of exporter/processor, buying agent, and local trader. Significant SUR estimated variables that influence certified coffee farmers’ market access are transaction cost attributes (price uncertainty, market competition, transportation cost, payment speed, and sale agreements) and socioeconomic characteristics of farmer (age, ethnic, farming experience, location, and certificate ownership).

Conclusion

Social relationships embedded in economic activities explain the most preferred access to spot markets of buying agent. The study suggests that improving education, credit access, and collective actions are essential for sustainable coffee farmers to mitigate the effect of small-scale production. Given the need for vertical coordination, farmers should be engaged in more direct market channels.

References