An Evaluation of technical efficiency of small farms households
in Chuong My District, Ha Tay Province, Vietnam

Yen Hoang Vu, William H Meyers
Department of Agricultural and Applied Economics
University of Missouri, Columbia

Poster prepared for presentation at Agricultural & Applied Economics

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Corresponding author, contact: yenvu@mpi.gov.vn, meyersw@missouri.edu
The Issue

• In terms of technical efficiency, which way is better? Hoa asked, "which direction that farm deve-lopment should take: small or large size, specialized or diversified" (2002).

• In that context, we wish to measure technical efficiency for small farming in two different categories: agricultural production in Vietnam (N.K Minh & Long, 2008). More importantly, we have not had any

• Unfortunately, there are not many studies on technical efficiency as well as overall efficiency on

The Background

• Vietnam has 90 million people with a total area of more than 322 thousand square kilometers. Vietnam has 85 million people with a total area of more than 322 thousand square kilometers.

• Agriculture is considered a key sector of Vietnam’s economic development. The total number of farms in Vietnam in 2009 was 120,699 in 64 provinces, of which nearly 50% were in the Red River Delta.

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• After Vietnam’s Renovation in 1986, and especially since Vietnam became a member of WTO in

• In July 2003, a big transition is occurring in farming systems. Farmers are switching from specialized to diversified farming as the revenue is higher and the risk seems to be lower.

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Methods

• The data envelopment analysis (DEA) approach is used to measure technical efficiency for agricultural production, and Tobit regression is used to see how the level of diversification and other farm characteristics affect the farm’s efficiency and what factors are the most important in explaining farm efficiency measures.

• Data is used from two sources: the 2010 survey, and the 2006 survey. The first source is a survey questionnaire which was conducted by the author for this study in July 2010, this has 75 respondents.

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Results

• The efficiencies of 75 sampled farms are tested, the mean technical efficiency is 67%, which is a little bit lower than Vu’s 2007 finding (76%). Farm profit appears to have a strong relationship with farm’s efficiencies.

• The most significant variables affecting different efficiency measures are the added enterprises, such as quantities of chickens, pig, and fish.

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• Land and Age are significant for technical efficiency; off-farm income dummy is significant for scale efficiency and scope economies. Among tested farms’ characteristics: education, gender, and loan dummy don’t have strong effects on any of the farms’ efficiency measures or on scope economies.

Implications for future research

• Further study could test the efficiency based on region of Vietnam using the Vietnam household survey data. The research should focus on one time period, and use regions as dummy variables.

• We would recommend deeper questions into gender roles in the farming operation so as to better identify gender impacts and management or “business skill” impacts.

• Nonparametric techniques could be applied to the same data sets used in this study. These tech-niques include non-radial measures, the use of “composite” frontiers which embody the best parts of different decision making units, the use of output distance functions, measurement of confidence inter-val, optimization of the number of constraints, and finding a statistical basis for the non-stochastic ap-proaches.

References


