



Nanyang Technological University
ECONOMICS AND ECONOMIC GROWTH CENTRE Seminar Series

Economics and Economic Growth Centre invite you to a seminar by
Prof ZHEN Liu

-
- Speaker** : **Prof ZHEN Liu**
School of Business
Nanjing Normal University
China
- Topic** : **"The Socioeconomic Assessment of Sloping Land Conversion Program in Rural China"**
- Chairperson** : **Prof Laura Guiying WU**
Division of Economics
School of Social Sciences
- Date** : **25 October 2017 (Wednesday)**
- Time** : **2.30pm to 3.30pm**
- Venue** : **HSS Meeting Room 4 (HSS-04-71)**
School of Social Sciences
14 Nanyang Drive, Singapore 637332
Nanyang Technological University

About the Speaker:

Liu was granted Ph.D. degree in Environmental and Resource Economics, University of Copenhagen (Denmark), 2014. The overall objective of his research is to contribute to evaluate the impact of ecological recovery program on micro-level households in rural China, and treatment effect analysis in other developing countries. This will be pursued through empirical investigation of rural livelihood strategies, household behaviors to policy intervention and appraisal of the options to alleviate poverty.

Abstract:

This research mainly focuses on the socioeconomic impact of the largest Ecological Recovery Program —the Sloping Land Conversion Program (SLCP), also called Grain for Green Program (GFG) in China. The central government initiated this program in 1999 and it was launched nationwide in 2002 with the aim to combat deforestation, ecological degradation, over cultivation of sloping land and soil erosion. However, we also believe it brings changes to the rural economic structure and household livelihood strategy. Applying and developing some empirical and theoretical methods with a large amount of household survey data, our study aims to improve our understanding of the treatment effect of the SLCP on farm households, which is split into three parts:

The first paper —The Sloping Land Conversion Program in China: Effects on Rural Households' Livelihood Diversification (Published in *World Development*, 2015), evaluates the effects of the implementation of the Sloping Land Conversion Program (SLCP) on livelihood diversification, which is thought to be the solution to poverty and environmental dilemmas. Our results show that SLCP works as a valid external policy intervention on rural livelihood diversification. In addition, the findings suggest that there exist heterogeneous effects of SLCP implementation on livelihood diversification across different rural income groups. The lower income group was more affected by the program in terms of income diversification.

The Second paper —Estimating the Effects of Sloping Land Conversion Program on Agricultural Households (Published in *Agricultural Economics*, 2016), analyzes whether the program influences farm household behaviour in the form of production, consumption and labor supply. In doing so, we first develop a microeconomic Agricultural Household Model (AHM), which can model the production, consumption, and labor supply decisions of farm households in rural China in a theoretically consistent fashion. Based on this theoretical model, we derive an empirical specification for econometrically estimating the effects of the SLCP and other exogenous factors. Using a large longitudinal farm household survey data set, we estimate the empirical model with the Hausman-Taylor Estimator method. The key results regarding the households' responses to the program nicely coincide with the results of our theoretical comparative static analysis, i.e. the SLCP decreases agricultural production and increases non-farm labor supply and consumption. In addition, on average, reduction of compensation payment rate lowers the treatment effect of the SLCP on participating households from both River basins.

Lastly, the third paper, —The effect of the Sloping Land Conversion Program on farm household productivity in rural China (Published in *Journal of Development Studies*, 2017), investigates the treatment effect (the causal effect) of the Sloping Land Conversion Program (SLCP) on farm household productivity. Using the same survey data set as the above two papers, I apply the nonparametric Malmquist index method to estimate the change in farm household productivity. In connection with evaluating the treatment effects, propensity score matching, which can give a randomized evaluation, is employed in a second stage. The main results show that the SLCP significantly improved the productivity of participants in the first funding period which are mostly from efficiency improvements, while the effects decreased in the second round except the positive impact in 2007. Moreover, it is found that there are heterogeneous effects on farm household productivity between the south and north, as well as poor and rich region.

In sum, these findings highlight that SLCP has significant effects on the farm household in different ways, most of which support the policy intention of central government according to our own understanding, whereas the effects differ depending on the group, region and period. Hopefully, this research will make a contribution to the treatment effect evaluation of programs for set-aside land in other developing countries, despite the presence of over sight which can be improved in future research, e.g. increasing the amount of data and further developing the research methods.

Reservation:

Admission is free. Please reply to e-egc@ntu.edu.sg for any enquiries.