Marijuana Decriminalization on Marijuana Smoking Prevalence: Evidence from Australia

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Professor Cheng Hsiao
Department of Economics, University of Southern California

Kannika Damrongplasit
Department of Economics, University of Southern California

Xueyan Zhao
Faculty of Business and Economics, Monash University, Australia

Abstract
This paper uses the 2001 wave of National Drug Strategy Household Survey (NDSHS) to assess the impact of marijuana decriminalization policy on marijuana smoking prevalence in Australia. We employ binary probit, bivariate probit, two-part, and endogenous probit switching models to estimate this impact. The bivariate probit and endogenous probit switching models take into account potential endogeneity that may occur because of individual's location choice between decriminalized and non-decriminalized states. We also use non-parametric difference-in-difference estimation and propensity score stratification matching to compute alternative measures of treatment effect. We contend that the point estimates from these two non-parametric approaches are not reliable because their underlying assumptions are violated when applying to our data. Our specification analysis appears to indicate that the endogenous probit switching model yields the most reliable estimate of an average treatment effect of 11.1%, suggesting that liberalizing marijuana policy has strong impact on its participation decision.

Presenter: Cheng Hsiao
Email: chsiao@usc.edu
Tel: (213)740-2103

Co-author: Kannika Damrongplasit
Email: damrongp@usc.edu

Co-author: Xueyan Zhao
Email: Xueyan.Zhao@buseco.monash.edu.au
Tel: +61 3 9905 2415
Fax: +61 3 9905 5474