Taxation and Household Portfolio Selection in Japan:
MCMC Estimation of the SUR with TOBIT model

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Summary

We investigated the effects of the introduction of the New Securities Tax System in 2003 on the household financial portfolio, namely, stocks/mutual funds holdings, bank deposits and bonds using the micro-data of the Family Income and Expenditure Survey, from March 2002 through December 2003. We put the intercept shift and risk premium shift for April 2003 representing the New Securities Tax System (NSTS) as the explanatory variables, in addition to the risk premium for each assets, total financial assets of household, age and a dummy variable for house ownership, in order to find which financial assets are effected by NSTS. Tobit model, SUR model and multivariate probit model are first estimated for the analysis. Tobit model, however, does not consider the covariances between error terms on each equations. There is a serious drawback for the SUR model because of the lack of appropriate treatment for the observation zero. The multivariate probit model is not efficient because it converts the continuous data into the discrete data. Therefore, we finally introduced SUR with Tobit model and estimated parameters with MCMC. The results for the amount of stocks/mutual funds holdings are such that both the intercept and coefficient shifts are of the positive sign and statistically significant. On the other hand, such shifts are not detected in the determination of bank deposits and bonds. Therefore, the results are consistent with that of Ono and Hayashida (2014) in that the NSTS is likely to increase the household stock holdings even considering the possibility of its effects on assets on other assets.

key words
New Securities Tax System, financial portfolio of household, SUR with Tobit, MCMC