

Nobuo OURA

YOKOHAMA NATIONAL UNIVERSITY

## **THE ESTIMATION OF CASH DEMAND FUNCTION USING PANEL DATA**

—THE SUBSTITUTABILITY OF COINS ,NOTES ,CREDIT-CARDS ,ELECTRONIC MONEY —

### Abstract

We estimated cash demand function using panel data. Constructing panel data and controlling individual effects, we estimate the cash demand function separately for coins and banknotes. We found the clarified differences in cash by characteristics. We also found the spread of IT payment methods has reduced the demand for coins, especially for small-value coins. On the other hand, the demand for banknotes has been increasing due to new factors such as non-transaction demand, especially for high denomination banknotes.

Keywords: -cash demand function, panel data analysis, fixed effect model, random effect model, missing money, non-monetized economy-