Reading Notes 4

Rulin Wang

Consumption has always been a hot topic in academic research. Several influential studies in the past showed that time-separable models were not so good to predict consumption because the calculated results were different from empirical evidence. To solve this problem, habit formation was introduced as a way of modelling time dependence. This paper aimed to test whether such habit formation exists. Authors found habit formation existed in food consumption and services when controlling time invariant unobserved heterogeneity.

This paper used the model proposed by Meghir and Weber (1996). This model is to estimate the within-period marginal rate of substitution (MRS) between commodities with some constraints. These constraints include the standard dynamic budget constraint and a liquidity constraint described by functions. Authors chose three non-durable goods to study: food at home, transport and services. In addition, authors made two assumptions. One assumption is the household maximized the present discounted value of a lifetime utility. The other one is, preferences of three goods are described by a utility function with continuous time and preference shocks. Finally, some demographic and labor supply variables were taken into models to describe household characters. These variables include the age and education of the head of the household, family composition, seasonal dummies, the labor force participation of husband and wife, other non-separable non-durable goods and wife's labor market status. The data of this paper were selected from the Continuous Family Expenditure Survey (ECPF) in Spain between 1985 and 1995. The ECPF is a rotating panel based on the survey conducted by the Spanish National Statistics Office, which increases the reliability of the data. Besides, the ECPF rotated one eighth of the total households randomly every quarter so authors could follow a household for a maximum of eight consecutive quarters. Compared with other databases, ECPF has more rotation times per year and contains more comprehensive data, which is why the authors chose it to study.

In the first half of this paper, authors estimated the MRS and Euler equations of three commodities in levels. Besides, Sargan test was done to verify validity of instruments. In the second half, the GMM regression was used to estimate dynamic MRS and Euler equations after controlling for time invariant unobserved heterogeneity. Sargan test was also followed to detect weak

instruments. Moreover, within period income and price elasticities were also calculated. Finally, the authors calculated the intertemporal elasticity of substitution to describe preference of household and measured the degree of habit formation. Authors found: (1) Estimation of MRS and Euler equations without time invariant unobserved heterogeneity showed that preferences were separable for different periods, but Sargan test detected the problem of misspecification; (2) When time invariant unobserved heterogeneity is controlled, authors found the evidence of habit formation for services and food consumption, but preferences were not separable. Sargan test did not detect problems this time; (3) By using Intertemporal Euler conditions, authors got other evidence to support the dynamic estimation for food consumption and coefficients obtained from the MRS and Euler equations; (4) For households whose head was younger than 40, MRS was no longer dynamic, and their preferences were not separable.

In conclusion, this paper demonstrated the importance of considering time invariant unobserved heterogeneity when analyzing household consumptions. It also showed the presence of habit formation. In my opinion, this is a good microeconomic and econometric paper. First, through comparing estimation of MRS and Euler equations in levels and dynamics, authors proved that including time invariant unobserved heterogeneity is necessary. The contrast research and the following Sargan test increase the credibility of this paper. In addition, this paper contributes to explaining the differences between theoretical models of preference and empirical evidence. The confirmation of habit formation helps subsequent consumption research. However, from the current perspective, this article also has limitations. First, the sample data is slightly small. Compared with the population of about 40 million in Spain in 1990, about 1,500 families were used in this paper. Problems might arise if the sample distribution was not guaranteed to be broad in Spain. Moreover, because the sample was taken from Spain, the results are not necessarily applicable elsewhere. More research is needed to generalize the conclusions.