

Econ613 Reading Note

Consumption and Habits: Evidence from Panel Data

Mengzhi Chen

Consumption behavior has always been an important research topic. Based on previous studies of intertemporally separable preferences models, many papers began to focus on habit formation, which assume preferences to be time non-separable. As one of them, this paper aims to test whether the relationship between current and past consumption reflects habits or heterogeneity. To control for the fixed effect, the authors used a Spanish panel data set which has information of household for up to eight consecutive quarters. Based on the test proposed by Meghir and Weber (1996), the authors estimated the MRS and Euler equation between commodities like food, transport and services. The results showed that considering time invariant unobserved heterogeneity is important when analyzing the existence of intertemporal non-separabilities in consumption decisions. In particular, there is habit formation in food and service according to MRS, while results from Euler equation indicates only food consumption has habit formation.

The basic methodology is based on the study of Meghir and Weber (1996). In this paper, the authors assumed that the households maximize the present discounted value of a lifetime utility, and for a given level of current consumption, larger habits lower utility. They studied three non-durable goods, including food at home, transport and services. To distinguish between liquidity constraints and intertemporal dependence in preferences, they compared two representations (Euler equation and liquidity constraints) of the first-order conditions. Then, the authors established the model of preferences, which also considered demographic and labor supply variables, as well as dummies for the labor force participation of wife and husband. Furthermore, in the empirical analysis, two sources of stochastic variability: the expectation errors and the preference shocks were also considered. Then, the authors estimated two equations: food versus services and transport versus services using the generalized method of moments (GMM).

Considering time invariant unobserved heterogeneity across households, the authors used data from the Spanish Continuous Family Expenditure Survey (ECPF). This survey has great advantages over other data sets, since it contains consumption information with longer panel. The data includes information up to eight consecutive

quarters for some households in the survey, so that the authors could identify the structural parameters in the presence for some fixed effects.

According to the basic methodology and data, the authors estimated the models and also reported Sargan tests for instruments validity. There are four main findings in this paper. Firstly, the authors estimated the MRS and Euler equations without taking time invariant unobserved heterogeneity across households into account. The results showed that there is no evidence of first order serial correlation, which means preferences are intertemporally separable. Moreover, the large Sargan tests of overidentifying restrictions indicated the existence of misspecification. Secondly, the authors focused on the model controlling for fixed effect. They included time invariant unobserved heterogeneity in the preference specification. According to the results, there is habit formation in food and service according to MRS, while results from Euler equation indicates only food consumption has habit formation. Also, the authors carried out some sensitivity analysis by lagging the instruments one further period, however, the Sargan test fail to reject the overidentifying restrictions. Thus, there is habit formation when controlling for fixed effect. Thirdly, the dynamic effects obtained using the intertemporal Euler conditions indicate habit formation in food, however, fail to show that preferences are non-separable over time for transport and services. Moreover, the equality of the coefficients obtained from the MRS and Euler equations cannot be rejected. Finally, to further investigate whether liquidity constraints are binding or not, the authors considered households whose head is younger than 40. This group of people are more likely to be constrained. According to the results, they find no dynamics in the MRS, since they cannot reject the null hypothesis of intertemporal separability. On the other hand, they found non-separabilities appear in the Euler equation. For young households, even when controlling for labor market variables, liquidity constraints are still binding. In this case, the authors find evidence against the hypothesis of equality of the coefficients obtained by the two different sets of first order conditions.

In conclusion, this paper showed that time invariant unobserved heterogeneity across household plays an important role in analyzing the presence of habit formation in consumption decisions. The authors used ECPF data sets to test whether there exists habit formation between current and past consumption or not. They included time invariant unobserved heterogeneity in the preference specification. The results showed that there is habit formation in consumption behavior when controlling for fixed effect. Furthermore, there may exist a possible limitation in this paper. The consumption behavior not only changes with time, but also affected by individuals' propensities. It may be better to consider this factor in the research.