Reading Notes on *Consumption and habits: Evidence from Panel Data*

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Introduction:

Habit formation in consumption decisions has been a popular topic in the field of economics for years. However, most related studies contain very little or no information about consumption. This data unavailability has presumably led to lack of empirical microeconomic evidence is previous studies. As limited as they are, studies on explores consumption and habit formation have significant drawbacks. For instance, Meghir and Weber's paper in 1996 used data from Consumer Expenditure Survey (CEX) that collects household data for four consecutive quarters, which is too short to control for time invariant unobserved heterogeneity across households. This improper treatment of unmeasured variables may result in uncontrolled heterogeneity and subsequently inaccurate intertemporal consumption relationship. To obtain accurate findings, this paper the test proposed by Meghir and Weber in 1996 and a Spanish panel data that observed households for up to 8 consecutive quarters. Tests done using the new data set allows the scholar to conclude that a statistically significant relationship exists between habits and consumption only when controlling for fixed effects.

Body:

Data

The Spanish data set selected surveys from 1985 to 1995 on 3200 households every quarter. To control for time invariant unobserved heterogeneity, only households interviewed with at least 5 consecutive quarters are selected. The data set is further limited to married couples with or without dependent offspring head aged 25-60. Households with extreme conditions, such as less than 300 Euros monetary income and expenditure on modeled goods are excluded. Subsequently, the final data set contains 2606 observations from 1499 households.

Three types of goods were modelled: transportation, services, and food consumption at home. The data set also included groups of conditioning goods, such as nondurable goods and nondurable housing expenses.

Theoretical foundation and empirical strategy

Based on the model of Meghir and Weber, this paper focused on three non-durable goods: food at home, transport, and services to deal with the problem that Euler equations face due to the liquidity constraints. Then the author made two important assumptions: the households maximize the present discounted value of a lifetime utility, and the unobservable heterogeneity comes from the error term and preference shocks. Next, after controlling for the fixed effects, the author used the Generalized Method of Moments, GMM to estimate two models: the food versus services model and the transport versus services model.

Findings

In the first part of the paper, the author estimated the model in level and differences and concluded that there is habit formation after controlling for the fixed effects. Firstly, the author estimated the MRS and Euler equations in levels without accounting for time invariant unobserved heterogeneity across households, the results showed that the preferences are intertemporally separable for both two methods, thus rejecting the habit formation. Moreover, the Sargan test is high for both models, invalidating the instruments. Secondly, to determine whether the previous biased estimated coefficients are attributed to correlated fixed effects, the author estimated the models including time invariant unobserved heterogeneity in the preference specification. The Sargan test shows that after controlling for the fixed effects, there is no misspecification problem, and the significant coefficients in MRS showing that there is habit formation in both food and services while the dynamic effects of Euler equations only provide evidence of habit formation in food. Moreover, the author showed that the liquidity constraints are binding through comparing the coefficients obtained by MRS and the Euler equations and looking at groups that are more likely to be constrained.

In the second part of the paper, the author first found the evidence of within period non-separability across goods (food, services, and other expenditures) in the context of MRS and Euler equations. Then, the author calculated the within period elasticities for expenditure and price using the previous results of the estimated models in levels and differences. Besides, the author calculated the intertemporal elasticity of substitution, a measure of the degree of habit formation, by computing the fraction of past consumption that explains current consumption. The results showed that important sources of heterogeneity are contained in the measure IES and the data for services matches the empirical findings.

Conclusion:

Former study on consumption such as Meghir and Weber's paper in 1996 has concluded that when controlling for other non-durable commodities, no evidence of habit persistence in foods at home, transport, and services exist. Using alternative treatments and data, this study shown that not controlling for time invariant unobserved heterogeneity would yield result where preferences are intertemporally separable. Once fixed effects are controlled, evidence of habit formation for food consumption and services exist in the result. Preferences are non-separable even when conditioning on labor market status and other nondurable goods. Along with other findings, this paper has shown that improper treatment of unmeasured variables may lead to spurious relationship between past and future consumption solely due to uncontrolled heterogeneity.

Although the author did a great job on testing for the presence of habit ofrmation in consumption decisions, there is sitll limitation of this paper. Comparing to the large populaiton of consumers around Spanish or the world, the data set containing only 1499 households that the author used is too small to generalize the popular conclusion.