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Reading Notes Four

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Reading Notes on Habit and Consumption

Over the last decade, economic research has shown that models with inter-temporally separable preferences would lead to several microeconomic puzzles including equity premium, the excess sensitivity, and the excess smoothness of consumption faced with permanent income shocks. To explain such puzzles, economists started to allow habit formation in consumption by incorporating non time-separable preferences and they partly successfully explain these puzzles. However, empirical work verifying whether habitual consumption exists is lacking due to problems of current data. For example, research of Naik and Moore (1996) and Dynne (2000) uses data only contains food consumption and thus has to assume that food and other goods consumption is separable, which is rejected by all available research. Meghir and Weber (1986), on the other hand, uses data containing all types of consumption but only four consecutive quarters, which prevents them from controlling unobserved heterogeneity sufficiently. By using ECPF data, this paper fixes data problems and thus gets more precise results on habit formation in consumption.

This paper is to estimate within-period consumption pattern represented by MRS and inter-temporal consumption pattern represented by Euler equation and then decide whether there exists habit formation in consumption (compare MRS and Euler equation can distinguish between habitual consumption and liquidity constraints). The theoretical method follows the framework of Meghir and Weber (1986). It studies three non-durable goods (food, transportation and service) to avoid the confusion if only one good is chosen. Each household faces a present discounted value maximization problem with utility function in peroid t depending both on consumption of period t and period $t-1$ (this allows habit formation). The utility function also includes a series of demographic characteristics, particularly including labor supply of husband and wife. Two types of stochastic terms (expectational errors and preference shocks) are also considered. Expectational errors is orthogonal to information in period t and choice variables in the $t-1$ and thus current demographic variables are appropriate instruments. Estimation with only this type of error is referred as estimates in "levels". Preference shocks is to include time invariant household fixed effects and in this case, choice variables in $t-2$ are valid instruments. Estimation with both types of error is referred as estimates in "difference".

As for the data, this paper uses ECPF data spanning from 1985 to 1995. One of the biggest advantage is that it includes consumption data for eight consecutive quarters to address the problem that Meghir and Weber (1986) has. Besides, it covers all types of goods consumption which helps to address the data problem appeared in Naik and Moore (1996) and Dynne (2000). Additionally, this paper chooses married couples, excludes households with income less than 300 euros, generates lags and leads needed and then drops all missing values arisen from generation.

In the result section, this paper decides whether there is habit formation in consumption by checking coefficients representing MRS and Euler is significant or not. Results of estimation in levels is presented first. With similar data and methods as Meghir and Weber (1986), this paper gets a similar result, that is, preference is inter-temporally separable so that there is no habit formation in consumption (this is shown both by MRS and Euler equation). This result, however, is biased since the model does not control unobserved time invariant heterogeneity.

When unobserved time invariant heterogeneity is controlled, the MRS estimation in difference shows that there is habit formation in food and service and while no habit formation in transport; the Euler equation estimation in difference shows that there's only habit formation in food. The difference between estimation in "difference" with earlier estimation in "levels" reveals the significance of controlling time invariant heterogeneity.

Finally, this paper checks whether the liquidity constraint binds. Tests shows that once labor market status is controlled, there is no evidence of liquidity constraint. Moreover, this paper also checks by focusing on individuals less than 40 years old. For this group, MRS shows evidence of separable preference while Euler equation shows non-separable preference. After estimation, test suggests that coefficients in MRS and Euler equation estimation is different, indicating that the liquidity constraint does bind for this group, which is consistent with theory and observation.

One potential limitation of this paper is that it uses an unbalanced panel data without mentioning any reason why the data is unbalanced, nor it mentions any process procedures towards this data problem.