

# Reading Note 4

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This article aims to identify the inter-temporally non-separability of household consumption, in other words, consumption habits formation. The authors find out that the non-separability is significant when controlling the time invariant unobserved heterogeneity across households.

The existing literature has revealed the problems caused by assuming inter-temporally separable preferences. In reaction to such issues, some studies introduced habit formation into the model and attempted to solve the puzzles such as equity premium and excess sensitivity. However, most of the empirical works were not at a micro-economic level due to data availability. Based on the previous research, this article creates a model depicting the preferences using both the marginal rate of substitution(MRS), which does not depend on the existence of liquidity constraints, and an Euler equation indicator, which would be affected by liquidity constraints. Coefficients would be estimated by the generalized method of moments.

With the theoretical foundations, the authors conducted an empirical study using improved data. They use the data from the Spanish Continuous Family Expenditure Survey, which is superior in that it is time-extensive. The article filters out the target households specifying three target goods, which are food consumed at home, transport, and services, and extracts their consumption expenditures in levels and differences. In addition, they also include demographic and labor supply variables to rule out the effects of other individual characteristics.

The regression running on levels finds out that the effect of transport and services on food is significant while services on transport are not. The hypothesis of homothetic separability and separability from conditioning goods cannot be rejected. The regressions on differences then reveal that with time invariant unobserved heterogeneity across households being fixed, the consumption is not inter-temporally separable. Furthermore, for the group under 40 years old, the Euler equation estimates are different from MRS, while for other groups we cannot reject the hypothesis that the two estimates are equal. This illustrates the effect of liquidity constraints on young people.

In conclusion, this article reinforces the existence of habits in consumption and emphasizes the importance of including time invariant unobserved heterogeneity across households when studying inter-temporal separability. This article also leaves room for future research. It does not directly state what

specifically led to the unobserved heterogeneity. The choice of goods is also not entirely adequate in that only three broad categories have been selected.