Incorporating Latent Lifestyle Classes to Explain and Simulate Household Residential Decisions: A Case Study of Singapore

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Abstract

In this study, using Singapore as a case, we employ the 2008 Singapore Household Interview Travel Survey (HITS) data to simultaneously estimate a latent class choice model (LCCM) for household decisions about residential location and housing type for public and private housing at the planning area level. With the LCCM, we explain the heterogeneous tastes of households towards the built environment and amenities associated with different residential locations. We illustrate the advantage of using residential preference and activity pattern information as indicators to disentangle the latent lifestyle classes in an LCCM. We develop a model of the household awakening decision (to enter housing market) based on the LCCM to measure households' evaluation of the difference in utility level of stress and inertia to move. The model is calibrated using observations of historical real estate transactions and household relocation data in Singapore. Lastly, we compare the simulated differences in which households are awakened for the LCCM model that differentiates household lifestyles and a baseline model that doesn't differentiate household lifestyles.

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