

Daily Consumption and Service Demand – A Study with German Time Use Diary Data and the Behavioural Microsimulation Model ServSim

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Abstract

Though individual demand for goods and services is of longstanding economic interest, there are only very few empirical based studies which focus on the time dimension of consumption. With time use diary data, however, new fascinating possibilities are opened to analyse ‘who is buying when’ and in particular in the context of the daily situation. Besides the interest on daily consumption results itself, the knowledge about individual daily behaviour provide new information to better match the supply and demand side of this central area of economics.

Our study – for the first time (at least in Germany) – empirically analyses individual daily demand for goods and services demand, i.e. the timing of the demand for commodities and services over the hours of the day. Our microdata base consists of more than 37.000 time-diaries of the actual nation wide Time Use Survey 2001/2002 of the German Federal Statistical Office. Political background and frame for this analysis is the actual liberalisation of shopping hours regulations in Germany.

After an illustration of the historical development and a short discussion of the liberalization of shopping hours we describe the daily structure of the demand for goods and services. The microeconomic estimates use a rare event logit approach to explain ‘who is working when in a day’ and a selectivity corrected poisson model for the linked duration of shopping hours. Using the microsimulation results we then analyse the demand structure in an ageing society by two alternative scenarios with our new behavioural microsimulation model ServSim. These two scenarios are general German population projections for the years 2010 and 2020 which were conducted by the German Federal Statistical Office. The descriptive results, the microeconomic estimation outcomes and the behavioural microsimulation results show new and clear distinct differences of daily demand for different socio-economic groups of our society.

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Keywords: *daily demand for goods and services, shopping hours, time use diaries, German Time Use Survey 2001/2002, rare-events-logit, selectivity corrected poisson model, behavioural microsimulation model ServSim, ageing society*

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