The impact of fixed and variable cost on automobile demand: Evidence from Denmark - DTU Orbit (09/12/2018)

The impact of fixed and variable cost on automobile demand: Evidence from Denmark

Many car characteristics, for instance cabin space and engine power, have a positive impact on fixed and variable costs. We extend the hedonic model, that considers only one type of cost, to the situation in which fixed as well as variable costs depend on the characteristics of the durable and derive an expression for the full willingness to pay for characteristics that takes into account the impact on fixed as well as variable costs. We apply the model to the demand for automobiles using rich Danish register data. Estimation reveals considerable heterogeneity and a non-negligible contribution of the variable costs in total willingness to pay. Next we show that under suitable assumptions a structural interpretation of our estimates is possible. We show that the willingness to pay per kilometer driven can be interpreted as a parameter of the utility function and study how it is related to household characteristics. Finally, we illustrate the model by computing how consumers change car quality in response to an increase in the fuel price.

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