

On Factors of Consumer Heterogeneity in (Mis)valuation of Future Energy Costs:

Evidence for the German Automobile Market

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Description

In this paper, we use a novel identification strategy to explore how various consumer- and transaction-related characteristics explain the heterogeneity in the consumers' valuations of ongoing fuel costs at the time of a car purchase. We base our empirical investigation on revealed preferences by exploiting household-level survey data on new automobile purchases in Germany over a period of seven years. The richness and structure of the data used in this study provide several conceptual and methodological advantages. In contribution to previous studies, we explicitly account for substantial heterogeneity across consumers in their car utilization along with heterogeneity in their tastes for car attributes. A highly-detailed definition of a car type allows us to reduce the possible effect of omitted car attributes on the estimation.

The current study presents a substantive empirical application of statistical analysis to a topic of interest to readers in the areas of economic policy and microeconomics. We, first, quantify the direction and magnitude of the consumers' trade-off between the higher upfront capital costs and the lower ongoing usage costs of a more fuel-efficient car by using nonparametric hedonic price regression. Second, we recover a joint distribution of consumer tastes and heterogeneity determinants by applying a quantile regression. It allows us to investigate a disparity in the covariates' effects among different levels of the estimated fuel costs' valuations. Some of the heterogeneity determinants have not yet been studied in the literature regarding consumer valuation of energy

costs. We discuss various potential explanations for the recovered consumer undervaluation of fuel savings that relate to market failures (insufficient information and capital constraints) and behavioral biases (cognitive limitations, choice-inertia, time preferences, and uncertainty).