

HETEROGENEOUS PREFERENCES AND THE INDIVIDUAL CHANGE TO ALTERNATIVE ELECTRICITY TARIFFS

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Overview

After several electricity market liberalizations and deregulations, households can freely choose their electricity tariffs in many countries (e.g. Sirin and Gonul, 2016). Possible reasons for the individual change of electricity tariffs are the reduction of energy costs or the demand for green power. In spite of the obvious high preferences for electricity tariff changes, however, only a small number of households regularly use this possibility. A good example is the demand for green energy. While a large majority of households in the USA and European countries state to favor renewable energy and are even willing to pay a premium for it (e.g. Pichert and Katsikopoulos, 2008), the choice of pure green electricity tariffs is still very limited (e.g. only about 11% of the households in Germany, see Energie und Management, 2016). Therefore, it seems that the main barrier for the change to alternative electricity tariffs is the unwillingness or inability to find and evaluate the large number of different tariffs and providers (e.g. Fehr-Duda and Fehr, 2016).

This can obviously lead to inefficiencies if households do not fully consider possible cost savings that are associated with an electricity tariff change or do not comply with their own tariff preferences. An insufficient change to green electricity tariffs can additionally lead to externalities if households do not internalize benefits from green electricity generation for other individuals. Households are obviously very different with respect to the aforementioned unwillingness or inability to evaluate different electricity tariffs and providers. Similar to Fischbacher et al. (2015) for the case of investments in energy saving measures, we argue that heterogeneous preferences, i.e. different risk, time, trust, social, and environmental preferences, can be related to individual decisions to change to alternative electricity tariffs.

Against this background, we empirically analyze this relationship with unique data from a representative web-based survey among more than 3700 German citizens. The survey was conducted in summer 2016, whereby the sample was drawn from the online panel of a market research company. In line with Fischbacher et al. (2015), this representative survey, which especially comprises questions about previous changes in electricity tariffs including the change to green electricity tariffs, was combined with methods from experimental economics, i.e. we included incentivized decision tasks for the measurement of time preferences (i.e. patience) and social preferences (elicited by using a dictator game). Risk and trust preferences are obtained by experimentally validated questions (e.g. Dohmen et al., 2011), while environmental preferences are measured by a New Ecological Paradigm Scale according to Dunlap et al. (2000). In addition, we include further control variables, for example, for political identification or common socio-economic and socio-demographic factors in our econometric analysis.

Methods

Based on data from a representative survey among German citizens that includes incentivized preference measures, our microeconomic analysis uses different probit models.

First results and conclusions

Our preliminary empirical analysis already shows the relevance of heterogeneous preferences. In line with our expectations, time preferences play an important role, i.e. patience has a strong significantly positive effect on changes to alternative electricity tariffs. This suggests that rather impatient individuals perceive the costs for finding and evaluating the large number of different tariffs and providers as too high so that their willingness to change the electricity tariffs is restricted. Furthermore, a higher general trust is weakly significantly positively related to the change to alternative electricity tariffs, whereas risk preferences have no significant effects. The estimation results can be used to appropriately design and implement policies to increase the willingness to efficiently change of electricity tariffs.

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