

HOUSEHOLD ELECTRICITY CONTRACT AND PROVIDER SWITCHING IN THE EU

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Overview

The liberalization of the electricity markets in the European Union was expected to lead to retail competition involving more varied supplier offers that would reflect variations in customer preferences. This should lead to more customer switching and efficiency gains. Despite the increased variety of electricity contracts, empirical studies typically find that household switching rates are low, in particular in countries where the incumbent electricity supplier is dominant. Reasons for the low switching rates include insufficient monetary gains, lack of trust in new providers, hassle costs, perceived complexity of the switching process, and satisfaction with the current provider (e.g. Wieringa and Verhoef 2007, Ek and Söderholm 2008, Yang 2014, Daglish 2016, Six et al. 2017, Shin and Managi 2017, He and Rainer 2017).

This paper assesses the factors related to household electricity contract switching. It thereby distinguishes between households that – in the past ten years - switched contracts but stayed with the same supplier (internal switchers) and those that switched to a new supplier (external switchers). With the exception of Ek and Söderholm's study (2008), the factors related to internal switching have not been studied, even though a large proportion of contract switches consist of new tariffs with the same provider (60% of all tariff switches in our sample). The econometric analysis includes a wide range of individual preferences, structural factors, and socio-demographic characteristics; in particular, it is the first paper to explicitly explore the role of time and risk preferences on switching behaviors.

Methods

The empirical analyses rely on more than 11,000 demographically representative observations drawn from eight EU countries in 2016 which differ in terms of state of liberalization: France, Germany, Italy, Poland, Romania, Spain, Sweden, and the United Kingdom. We employ multinomial probit models to reflect the nominal character of the dependent variable: no contract switching, internal contract switching, external contract switching. The covariates include a broad set of individual preferences, structural factors, and socio-demographic characteristics. In particular, we employ two types of measures reflecting preferences for time and risk, scale-based and experiment-based measures. First, preferences for risk aversion and time discounting were elicited and estimated jointly via non-contextualized multiple price list experiments (MPLEs) adapted from Coller and Williams (1999) and Holt and Laury (2002), for which more than half the participants were incentivized. We jointly estimated the parameters reflecting preferences over time and risk to derive internally consistent parameters for given functional forms (e.g. Abdellaoui et al. 2007). Second, the survey also elicited time and risk preferences using the self-assessment scales (e.g. Dohmen et al. 2011).

We estimated two types of models. In the 8-countries model, observations from all countries were pooled and country-specific effects (e.g. reflecting especially different outcomes of the liberalization of the electricity markets) were captured by country dummies. Further, we also ran eight individual country models.

Results

Descriptive statistics show heterogeneity across countries in propensities to switch electricity contracts and suppliers. While at the aggregate level, more than half the households reported to have switched contracts in the past ten years, in France, Italy, Poland, Romania, and Spain the majority of households did not switch contracts. Internal switching was highest in France, Italy, and Romania. In comparison, the share of external switching was particularly high in Germany, Italy, Sweden and the UK.

Our econometric findings suggest that less-risk averse individuals were more likely to have switched contracts. Among contract switchers, less risk-averse contract-switching individuals were more likely to be internal switchers than external switchers. Time preferences were also shown to affect switching behaviors, with more patient

households being more likely to have switched contracts. Similar to the previous literature we found household electricity contract switching to be positively related with financial benefits (i.e. relevance of energy costs in energy-related decision making, and household size as a proxy for the cost saving potential), environmental preferences, previous moving, renting (renters being less likely to switch), and age. In addition, risk-aversion and impatience were found to inhibit contract switching. The impact of renting appeared particularly strong; previous studies had speculated such an effect but did not find significant effects probably due to small sample size. Our results therefore point to the necessity to separate renters from home-owners when studying contract switching.

We further found that internal and external switching are generally not correlated with the same factors. For external switching, the probability to switch to a new electricity provider was positively associated with perceived relevance of energy costs, previous moving, income, and age, and negatively associated with renting. For internal switching, we found the propensity to switch to a new electricity contract with the former provider to be positively associated with household size, environmental preferences, risk-taking, and patience. Further, internal switching was found to be negatively associated with renting and income. Most of the findings on the factors related to contract switching in general also held at the level of individual countries, but often lacked statistical significance, arguably because of lower degrees of freedom than in the aggregate model with observations from eight countries.

Conclusions

Because previous literature has typically only focused on external switching, it has implicitly treated internal switching and no switching to be the same. Our results however show that no contract switching and internal switching appear to be driven by different factors. Thus, empirical analyses should distinguish external switching, internal switching and no switching. For the factors driving internal and external switching, we observed substantial heterogeneity across countries. This highlights the need to infer implications for regulation or provider business models from the individual country models rather than the aggregate model.

Finally, while the data allowed us to distinguish factors related to internal and external switching, information on the attributes of current or previous electricity contracts (e.g. tariff, price guarantees, cancellation fees, welcome bonuses) or of household perceptions of former and new provider (e.g. of trust, reliability), was not available. Future research could incorporate such factors to provide greater understanding of switching behaviors.

References

- Abdellaoui, M., Bleichrodt, H., Paraschiv, C., 2007. Loss aversion under prospect theory: A parameter-free measurement. *Management Science*, 53(10), 1659-1674.
- Coller, M., Williams, M.B., 1999. Eliciting individual discount rates. *Experimental Economics* 2, 107–127.
- Daglish, T. 2016. Consumer governance in electricity markets. *Energy Economics* 56, 326-337.
- Dohmen, T., Falk, A., Huffman, D., Sunde, U., Schupp, J., Wagner, G.G., 2011. Individual risk attitudes: measurement, determinants, and behavioral consequences. *Journal of the European Economic Association* 9, 522–550.
- Ek, K., Söderholm, P. 2008. Households' switching behavior between electricity suppliers in Sweden. *Utilities Policy* 16, 254-261.
- He, X., Reiner, D. 2017. Why Consumers Switch Energy Suppliers: The Role of Individual Attitudes. *The Energy Journal* 86(6), 25-53.
- Holt, C., Laury, S., 2002. Risk aversion and incentive effects. *American Economic Association* 92, 1644–1655. doi:10.2139/ssrn.893797.
- Shin, K. J., Managi, S., 2017. Liberalization of a retail electricity market: Consumer satisfaction and household switching behavior in Japan. *Energy Policy* 110, 675-685.
- Six, M., Wirl, F., Wolf, J., 2017. Information as potential key determinant in switching electricity suppliers An econometric study on Austrian households. *Journal of Business Economics* 87, 263-290.
- Wieringa, J. E., Verhoef, P. C., 2007. Understanding Customer Switching Behavior in a Liberalizing Service Market. *Journal of Service Research* 10(2), 174-186.