

Contract Choice Under Price Volatility: Evidence from Dynamic Electricity Pricing

Baptiste Rigaux

Ghent University, Ghent, Belgium

Extended Abstract

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Abstract Summary

Real-time electricity pricing (RTP) exposes households to wholesale price volatility, creating potential bill savings as well as financial risk. I use population-wide data from 325,000 residential electricity smart meters from 2022 to 2024 in Flanders (Belgium), which record net consumption every 15 minutes, to study household adoption of RTP contracts. I find that households select on expected gains, but the absolute effect is small: €100 in monthly expected savings increases adoption probability by just 0.06 percentage points (p.p.). However, relative to the baseline adoption rate, this represents a more meaningful 30% increase. Adoption patterns are consistent with risk aversion: higher volatility in potential gains reduces uptake by around 5% per unit increase in the coefficient of variation. Stronger adoption drivers are low-carbon technologies, as ownership of electric vehicles, heat pumps, solar PV, or batteries raises uptake by 0.04 to 0.20 p.p., corresponding to large relative effects of 20% to 97%. These results suggest that risk aversion only marginally explains limited RTP adoption, and that ownership of flexible technologies fosters RTP. Event studies further show that RTP adoption clusters around the adoption of certain low-carbon technologies, suggesting potential complementarities; ongoing work explores such bundling mechanisms.

Presenting Author Biography

Baptiste Rigaux holds a Master in Physics (2020) and a Master in Environmental Science and Management from the *Université Libre de Bruxelles* (2021). In March 2022, he joined Ghent University as a PhD researcher at the Department of Economics. Since November 2023, Baptiste is aspirant Fundamental Research of the Research Foundation - Flanders (mandate no. 11Q4224N).

Under the supervision of Prof. Dr. Marten Ovaere, Baptiste's research uses empirical data, including surveys, choice and field experiments, to investigate the flexibility potential of Belgian households.

You can contact him at: Baptiste.Rigaux@ugent.be or on LinkedIn.