

## PRESS RELEASE

March 03, 2022

# Real-Time Electricity Pricing Needs Extra Measures to Foster Adoption, Study Says

*Real-time electricity pricing is a topic currently considered in many countries worldwide. Still, initial experience in New Zealand shows, that there are obstacles which hamper consumers' willingness to switch to a real-time tariff.*

Under such a billing system, consumers' electricity prices correspond to wholesale spot markets in real-time compared to an average price in conventional contracts. "It is striking that (...) the rates of the flat tariff always exceed that of real-time pricing," except in cases of crisis price spikes, economists Charles Pébereau from Stanford University and Kevin Remmy from the University of Mannheim wrote in a recent study (see [chart](#)).

"Contrary to theoretical predictions, the retail market in New Zealand did not unravel towards wide spread adoption of real-time pricing and, more than seven years after the introduction of real-time pricing, less than 1.25 per cent of consumers switched to this tariff," the authors emphasise.

They examined panel data of all residential retail switches between 2014 and 2018 and identified barriers to widespread adoption of real-time pricing and their consequences for policies promoting this tariff. The results matter as for instance, the European Union implemented an 'opt-in' policy requiring that large retailers offer real-time pricing by 2025.

The pros and cons are as follows: On the one hand, real-time pricing increases demand response which can help integrate intermittent renewable energy sources such as wind and solar. It improves the efficiency of electricity markets by reducing the need to install generation capacity that is only used a few hours each year when demand peaks and prevents producers from abusing their market power.

On the other hand, because spot prices are uncertain and volatile, real-time pricing exposes consumers to the risk of a crisis on electricity wholesale markets which may increase with the share of intermittent electricity sources and by weather changes due to global warming.

"Our results suggest that price uncertainty is a serious threat to widespread adoption of real-time pricing because when prices spike unexpectedly and remain high for several weeks, prospective adopters forego adoption and recent adopters switch to another tariff and do not return," Pébereau and Remmy said.

In New Zealand, such a crisis occurred for about three months in 2017 due to low hydro levels coupled with high electricity demand driven by electric heating in winter. This crisis had a great impact on the adoption as well as on the propensity to leave the new tariff, or attrition, the study showed.

During a crisis on the wholesale market, the trade-off between short-term losses and long-term benefits is particularly salient to every consumer. It affects both the consumers who consider adopting real-time pricing and those who have already adopted it because there are no fees associated with switching to another tariff.

# PRESS RELEASE

The [study](#) also revealed that experience with and knowledge about the billing system plays a role in consumer's behaviour. The share of consumers discarding real-time pricing during the winter 2017 crisis decreased with the time spent on the tariff.

What's more, consumers rely mostly on contemporaneous spot prices to decide whether to adopt real-time pricing – they are present biased and make ‚now-or-never‘ decisions rather than strategically time adoptions.

Given these observations, the authors derive two sets of policy recommendations: First, strategically timing when consumers adopt real-time pricing can increase the chances that consumers remain on real-time pricing and limit the risks that a crisis interrupts the unraveling process, Pébureau and Remmy argue. Switching should be encouraged “for instance through advertising campaigns or with subsidies.”

Second, providing information to consumers, both before and after adoption, can accelerate the learning process and help them make rational and informed decisions. “It is essential that consumers understand how spot prices form and that long-run gains can compensate for immediate losses,” the authors said.

“A simple policy would be to facilitate access to records of household consumption profiles and use them on tariff comparison websites,” they concluded.

---

The presented discussion paper is a publication without peer review of the [Collaborative Research Center \(CRC\) Transregio 224 EPoS](#). Access the full discussion paper [here](#). Find the list of all discussion papers of the CRC [here](#).

## Authors

Charles Pébureau, Postdoctoral scholar in Economics at Stanford University Graduate School of Business  
Kevin Remmy, member of the Collaborative Research Center Transregio 224 EPoS and Postdoctoral researcher at the University of Mannheim

The Collaborative Research Center (CRC) Transregio 224 EPoS

Established in 2018, the [Collaborative Research Center Transregio 224 EPoS](#), a cooperation of the universities Bonn and Mannheim, is a long-term research institution funded by the German Research Foundation (Deutsche Forschungsgemeinschaft, DFG). EPoS addresses three key societal challenges: how to promote equality of opportunity; how to regulate markets in light of the internationalization and digitalization of economic activity; and how to safeguard the stability of the financial system.

## Contact

For further information and interview requests, please contact the author of the study:

Kevin Remmy  
Department of Economics  
Mannheim University  
Tel: +33 6 28 76 19 16  
Email: [kevin.remmy.001@gmail.com](mailto:kevin.remmy.001@gmail.com)

**CRC TR 224 Office, Ture Petersenn**

phone | +49 228 7362184

e-mail | [crctr224@uni-bonn.de](mailto:crctr224@uni-bonn.de)

[www.crctr224.de](http://www.crctr224.de)