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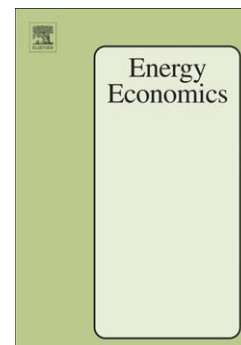
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Rüdiger Kiesel, Florentina Paraschiv

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Econometric analysis of 15-minute intraday electricity prices

Rüdiger Kiesel^{a,*}, Florentina Paraschiv^{b,1,**}

^a*Chair for Energy Finance, University of Duisburg-Essen, Universitätsstrasse 12, D-45117 Essen, Germany*

^b*Institute for Operations Research and Computational Finance, University of St. Gallen, Bodanstrasse 6, CH-9000, St. Gallen, Switzerland*

^c*Norwegian University of Science and Technology (NTNU), Faculty of Economics and Management, NTNU Business School, Klbuveien 72, NO-7030, Trondheim, Norway*

Abstract

The trading activity in the German intraday electricity market has increased significantly over the last years. This is partially due to an increasing share of renewable energy, wind and photovoltaic, which requires power generators to balance out the forecasting errors in their production. We investigate the bidding behaviour in the intraday market by looking at both last prices and continuous bidding, in the context of a reduced-form econometric analysis. A unique data set of 15-minute intraday prices and intraday-updated forecasts of wind and photovoltaic has been employed. Price bids are explained by prior information on renewables forecasts and demand/supply market-specific exogenous variables. We show that intraday prices adjust asymmetrically to both forecasting errors in renewables and to the volume of trades dependent on the threshold variable demand quote, which reflects the expected demand covered by the planned traditional capacity in the day-ahead market. The location of the threshold can be used by market participants to adjust their bids accordingly, given the latest updates in the wind and photovoltaic forecasting errors and the forecasts of the control area balances.

Keywords: intraday electricity prices, bidding behavior, renewable energies

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**Corresponding author: Florentina Paraschiv, florentina.paraschiv@ntnu.no.

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