

# The role of expectations for market design – on structural regulatory uncertainty in electricity markets

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**Abstract** Ongoing policy discussions on the reconfiguration of bidding zones in European electricity markets induce structural uncertainty about the future market design. This paper deals with the question of how this structural uncertainty affects market participants and their long-run investment decisions in generation and transmission capacity. We propose a stochastic multilevel model, which incorporates generation capacity investment, network expansion and redispatch, taking into account uncertainty about the future market design. Using a stylized two-node network, we disentangle different effects that uncertainty has on market outcomes. Our results reveal that expectations about future market structures have an important effect on investment decisions. Unlike most parametric uncertainties, structural uncertainty about the future market design can have a positive effect on welfare, even if a market design change does not actually take place, although there are distributional effects. This also implies that the welfare gains of a change to a more efficient market design are lower if market participants already anticipate this change.

**Keywords** Electricity, investment, structural uncertainty, market design, bidding zones, nodal pricing.

**JEL Classification** D47, D80, L51, Q41, Q48

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