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Title: By Show of (Which) Hands: An Empirical Analysis of Regional Transmission Organization Stakeholder Voting

Abstract:

In the late 1990's, deregulated, competitive markets for electricity generation were imagined by the Federal Energy Regulatory Commission which called for open and non-discriminatory access to transmission. The formation of modern "grid operators" known formally as regional transmission organizations (RTOs) adopted or expanded their roles to oversee this complicated market and supply chain. In their respective footprints covering the northeastern United States, the PJM Interconnection, New York Independent System Operator, and ISO New England manage many of the technical, planning and market aspects needed in wholesale electric energy production and delivery. Each RTO contains stakeholder processes which design market and operational tariffs which strategize how supply meets demand in the short and long-run. The stakeholder process is thought of as a key aspect of grid governance and democratic innovation. Changes to market and operational tariffs occur based on formal voting procedures; each RTO has its own voting procedure which are comparable overall but have slight nuances that will be outlined. This analysis uses a novel dataset that compiles rule proposal voting done in the senior-level northeastern RTO stakeholder committees from 2010-2019. The dataset extends to other sources to create relevant voter heterogeneity. First, the empirical work assesses patterns in cross-sectional stakeholder participation based on stakeholder attributes. The idea that political share parallels incumbent market share is weakly inferred from two stages of regression of zero-inflated stakeholder vote participation. Inversely, this regression identifies stakeholder classes that are not frequent representatives during rule proposal voting. Then, panel data is analyzed to test the pivotal voter theory that the discrete choice of participation is conditional on a positive *net return* to voting. This is a holistic assessment to determine if the stakeholder process is democratic while involved entities with varying commercial interests consider rule proposals that vary in relevance by market design category. Findings from each RTO are then compared to one another. **Lastly, for stakeholder classes deemed not highly participatory, a simple quantitative approach to determine if marginal participation would affect vote outcome is implemented. With a different hypothetical vote outcome, economic impact is discussed.** It is a sophisticated electric power grid enjoyed in the northeastern United States; this is an empirical analysis of the stakeholders involved in its governance and innovation.