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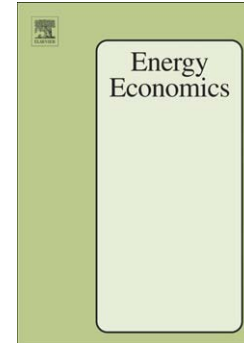
The Effect of Subsidized Entry on Capacity Auctions and the Long-Run Resource Adequacy of Electricity Markets

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David P. Brown*

Abstract

Motivated by recent government interventions in the form of mandated subsidies for new and existing generation capacity, I examine the impact of subsidized entry of electricity generation capacity on the performance of centralized capacity auctions. Subsidized entry suppresses capacity prices and induces an inefficient allocation of capacity. It also alters the equilibrium generation portfolio determined by the capacity auction. In the short-run, altering the generation portfolio through subsidized entry may lead to lower expected electricity prices in subsequent market interactions. These effects reduce total industry profit, but may increase consumer surplus. Consequently, the effect of subsidized entry on short-run expected welfare is ambiguous. However, subsidized entry has adverse long-run impacts. The suppressed capacity and electricity prices reduce the incentives of unsubsidized firms to invest in generation capacity. Further, subsidized entry may induce welfare-reducing boom and bust investment cycles and/or may be self-reinforcing. Under plausible conditions, the long-run resource adequacy issues associated with insufficient capacity investment dominate the potential short-run benefits of subsidized entry. Regulatory policies such as PJM's Minimum Offer Pricing Rule (MOPR) attempt to eliminate subsidized entry. These mitigation measures can be welfare-enhancing in the presence of subsidized entry.

Keywords: Electricity market design; Subsidized entry; Resource adequacy; Regulatory policy, Multi-unit auctions

JEL Classifications: D44, L13, L50, L94.

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