

Do Firms Reduce their Electricity Usage after Winning Demand Response Auctions?

Introduction Reports

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a. What is the main question(s) raised in the paper (the issue)?

A utility company (e.g. Taiwan Power Company) provides price incentives to firms who voluntarily reduce their usage during the period which is more expensive for the utility company to generate or obtain electricity in a short run to support the power market demand. The author wants to prove that after winning demand response auctions, the firms will indeed reduce electricity usage.

b. Why should we care about it (the significance)?

Nowadays the issues of energy are widely discussed and the past three weeks there are twice power cut occurred. It makes us wonder that whether the electricity of Taiwan is enough to use for all the people? Based on this argument, energy conservation is the primary challenge for the government and even the whole Taiwanese to deal with. In addition to this point, we also need to think about how to balance environmental sustainability and economic development. If we can reduce energy consumption through demand response auctions, then it proves this paper is important.

c. What is the author's answer (the findings)?

The author's answer is that after winning demand response auctions, the firms will indeed to reduce electricity usage. However, the firms that reduce electricity usage may not win the bid.

d. How did the author get there (the strategy)?

First, the author uses a regression discontinuity design to each participant to solve the selection bias problem and then make two assumptions. One is that potential outcomes are continuous at the cutoff. Another is that changes in outcomes may be due to winning an auction. Second, the author applies Pseudo cutoff to get the results.