

Offer Price Information and the Exercise of Market Power: The Effect of the Publication of the Historical Trading Report on Competition in the Alberta Electricity Market

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This paper considers the effect of the publication of offer price information on unilateral market power in Alberta's electricity market. This market is an hourly auction characterized by repeated interaction among a small number of producers, common knowledge of costs and production capabilities, and predictable and price inelastic demand.

Alberta's electricity market is organized as an auction in which producers compete to meet consumers' demand for electricity in each delivery hour. These auctions are conducted by the province's independent system operator, the Alberta Electric System Operator (AESO). During the period from July 13, 2000 to May 18, 2017, the AESO published the Historical Trading Report (HTR) that, about 5 to 10 minutes after the end of each delivery hour, made public the prices and quantities of each offer to supply energy in the delivery hour just ended.

The methodology used to consider the effect of the HTR on market prices is to take observed market prices and compare them to those that would have resulted if restatements involving changes to prices following the publication of the final HTR did not occur.

The empirical strategy has two elements. First, a counterfactual supply curve that reflects the absence of the HTR is constructed. Second, a residual market demand curve is estimated using reduced-form approaches to separately estimate hourly (i) price-responsive demand for a subset of large consumers in Alberta and (ii) import supply from neighboring jurisdictions. The combination of these elements allows us to estimate the counterfactual market prices and quantities that would have prevailed in the absence of the HTR.

A six-year study period from 2010 to 2015 is considered (a total of 52,584 hours). The average observed and counterfactual pool prices over the six-year period are \$59.06/MWh and \$56.58/MWh, respectively. The average price difference for the six-year period is \$2.48/MWh, which is equal to 4.2% of the average observed pool price. This means that the average effect on the pool price of the restatements that occur after the final HTR is published is to raise the pool price by \$2.48/MWh, or 4.2%. This result is statistically significant with greater than 99% confidence.

It was on the basis of an earlier version of these results that the Market Surveillance Administrator, Alberta's electricity market monitor, filed an application with Alberta's electricity market regulator on December 2, 2015 seeking an order directing the AESO to cease publication of the HTR. On May 17, 2017, Alberta's utility regulator, the Alberta Utilities Commission, accepted the Market Surveillance Administrator's application and ordered the AESO to cease publication of the HTR. Publication of the HTR ceased the next day.

Information about current or recent producer offer strategies is not commonly available in other liberalised electricity markets. While this paper focuses on the release of certain offer in-

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formation in the Alberta electricity market, the results suggest that other electricity markets should continue to be cautious about releasing offer information.