

Market Response to Price Changes

Analysis of Trade Flows between New York and Ontario

Preliminary Findings



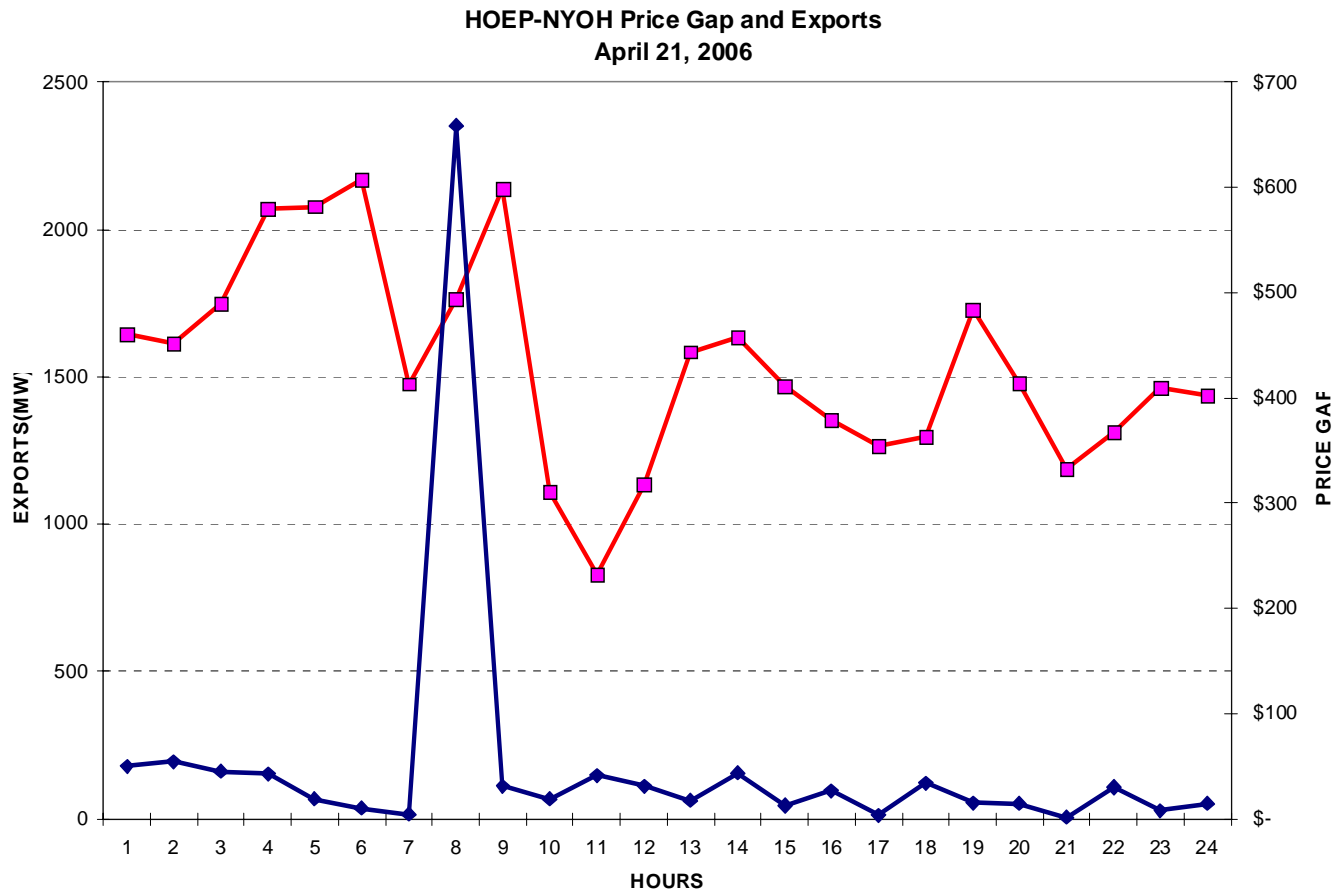
- To date, predicting impacts of possible market changes limited by inability to predict participant behaviours to those changes.
- Goals of this work:
 - To identify and quantify witnessed behaviour changes. This study looks at exporter's behaviour.
 - Application to future possible market changes

- Price differences, absent structural and financial barriers to trade, drive trading decisions
- A low Ontario price, relative to New York, induce exports from Ontario, other things being equal.
- A high Ontario price, relative to New York, induces imports into Ontario, other things being equal

- More exports from Ontario increases market demand in Ontario
- High market demand increases the HOEP
 - encourages more imports into Ontario and less exports out of Ontario to New York
- Less exports from Ontario reduce market demand and HOEP, other things being equal.

- Arbitrage pressures keep HOEP and New York (Zone OH) price in check
- A price spike in Ontario is rapidly traded away.
 - Example; On April 21, 2006, heavy demand and supply disturbances caused HOEP to reach \$ 700 (pre-dispatch price of \$78) in hour 8. Exports in hour 10 and 11 dropped to 1100 MW and 800 MW from average of 1900 MW in the previous 5 hours

Price Gap and Export Response



- We hypothesize that there exists a negative relationship between exports and HOEP after controlling for the New York Price
- We then developed an econometric model to test the above hypothesis. Model uses monthly data on HOEP and New York (OH) price.
- Sample size : January 2003 to May 2006.

- Analysis shows that exports, HOEP and the New York price tend to move together over time. This means:
 - that there exists some degree of convergence between the New York and Ontario markets.
 - prices in the two markets do not deviate too far from each other.
- On average, we found that a 10 per cent increase in the HOEP would lead to an 18 per cent decline in exports to New York, other things being equal.

- If the IESO adopts a new methodology for price determination, what impact will this have on trade flows?
- If Ontario adopted a locational/zonal pricing model, how would export and import behaviour change in relation to these locational prices.

- We would like to know how import and export behaviour respond to hourly price changes
- We can then simulate the model to analyse a variety of scenarios.
 - For example how trade flows change if IESO moves from 12 X to 1X in the unconstrained schedule.

- Initial Model used aggregated data to show and quantify relationship between HOEP and exports.
- Hourly model will focus more on hourly changes in behaviour and subsequent impact on prices.