FTC Microeconomics Conference Discussion

"Do Firms Game Quality Ratings? Evidence from Mandatory Disclosure of Airline On-Time Performance"

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Brief Overview

- Do airline employees "game" the On-Time Performance (OTP) measurement system?
  - Inherently interesting question in a market well-suited to answer it
    - Clear dimension to game (threshold)
    - Clear group of primary gamers (front-line employees)
    - Variation in firm-level incentives

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Comments Overview

- General Gaming Insights
- Airline Insights vis-à-vis OTP
- A Different Measure of Interest

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General Gaming Insights

- As written, the paper is primarily using empirics for theory verification

- Implicit theoretical model:
  - A firm has employees with utility objective functions with pay and effort as arguments: U(p,e)
    - U is increasing in pay: $\partial U / \partial p > 0$
    - U is decreasing in effort: $\partial U / \partial e < 0$
  - At time t, pay was constant. At time t+1, pay is a function of Rank, which is a function of effort: p(R(e))
    - R'(e) >> 0 if effort occurs around the ranking threshold
    - p'(R) depends on leniency of incentive scheme

- Predicted effort change?

General Gaming Insights

- The paper does hint at a model with much murkier predictions: Incentive scheme choice

- Why did firms choose to use an incentive scheme linked to the 15-minute threshold, despite the likely possibility that costs of delays are convex?
  - Greater cost to use other measures?
    - Total minutes delayed, Proportion 2+ hours late
  - They only/mostly care about OTP in terms of visible ranking?
    - This implies something about how they believe OTP influences profits via customer experience vs. ranking
  - They believe the 15-minute margin is the most important to customers?
  - They are unaware of gaming behavior?

General Gaming Insights

- Given a large proportion of ranking improvements were via the "pencil wedge," why wasn't there gaming before incentive schemes for Continental & TWA?
  - Are there consequences for manual tinkering of OTP measures?
    - If so, is management at risk for explicitly encouraging the practice?
      - If so, the incentive scheme could be an effective way to indirectly achieve the same result
  - At any rate, the incentive schemes show us something about employees' thresholds for dishonesty

Airline Insights vis-à-vis OTP

- The incentive scheme implies a huge free rider problem
  - Is it plausible that an on-the-ground employee will, on any single occasion, note that a plane is near 15 minutes late and "hustle" to beat the threshold?
  - If such a "real" change in OTP won't occur, then we should only expect virtually costless, "unreal" changes via lying
- The manual vs. automatic breakdown is a great idea and well executed
  - However, I don't think it can eliminate the possibility that the effect is one-sided
  - In particular, suppose I claim the entire effect is through lying on manual planes
    - You could then still find an effect on "automatic" planes due to mischaracterization of some manual planes as automatic
    - Further, the later incentive schemes where no effect was found were automatic – it could be this feature, and not the low probability of payoff, generating this finding

Airline Insights vis-à-vis OTP

- Is there a set of certain automatic planes?
  - If so, seeing an effect here would not just show measurable effort toward gaming
  - It also would provide clear evidence of airlines' ability to manipulate actual OTP at very low levels of the firm

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Airline Insights vis-à-vis OTP

- Even if it is just lying, the effects of the incentive programs directly imply a cost to lying
  - They give us a sense of a sufficient payoff to induce employees to lie
  - If we consider the free rider issues, it appears a very small expected payoff is sufficient
  - However, given employees weren't lying before the incentive change, it appears a strictly positive expected payoff is necessary

A Different Measure of Interest

- Employees on the ground have the most information when deciding whether to "game"
- However, pilots likely have the most individual control over OTP outcomes
  - They can notably adjust plane speed
- Could you perform similar analysis for "wheels up / wheels down" time as a function of predicted delay?

A Different Measure of Interest

- WU / WD analysis:
  - May require wider expected-delay bins than one minute
    - However, comparing 10-20 minutes expected delay to, e.g., 60-70 minutes expected delay should draw the picture
  - Evidence here would imply real OTP improvements
    - This is real time being saved
    - Welfare implications unclear though…what are the costs to flying faster?