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The first-order approach to merger analysis

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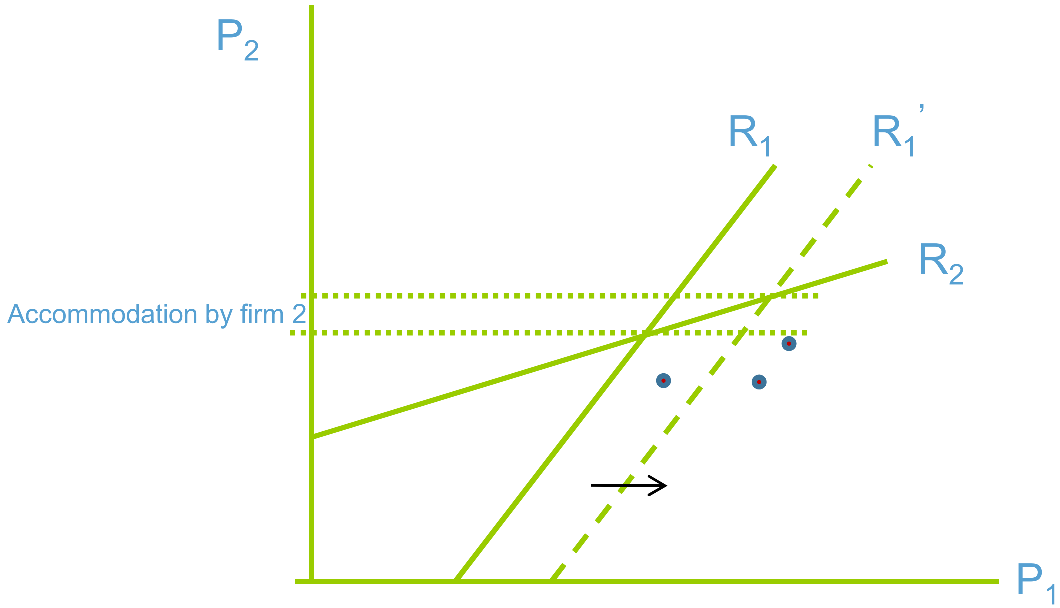
GePP overview

- Builds on Werden (1996); Farrell & Shapiro (various); Froeb, Tschantz, and Werden (2005)

- Generalizes UPP for a merger of A and B:
  - $UPP_A = (P_B - C_B) \times D_{AB} - \Delta C_A$
  - A merger of substitutes will reduce the "cost" of price increase via recapture
  - Differentiated products, Bertrand-Nash underpinning

- GePP is an improvement in that it captures economic phenomena that are omitted from UPP, GUPPI, etc.

Differentiated goods, competition in prices



- Pre-merger, if Firm 1 increases price, the "cost" of that is reduced by the concomitant price increase by Firm 2.
  - Given upward sloping reaction curves
- Something of a freebie for Firm 1, that is no longer free post-merger
  - UPP does not factor this in . . . lost freebie would offset UPP (but not flip the sign)
- Nice insight; intuition could suggest that ignoring accommodating responses would make projections more conservative

The life cycle of a merger

1. Pre-HSR
   - Transactional focus, not common to retain economists early in this period
     - Only data from merging parties is available
   - Parties could affirmatively prepare UPP, GePP, etc. analyses during this time, but typically don't
2. HSR filed and 30-day waiting period begins
   - Agency conducts interviews and gets responses to voluntary requests to parties
3. Second request and compliance
   - Agency conducts interviews, possible rolling production by parties, discovery from third party CIDs
   - Typically, would have several months or more, but would not begin this period with access to data
4. Complaint and preliminary injunction
   - Can come pretty fast: *Whole Foods* complaint in June 2007; Murphy report August 23, 2007
5. Full trial
   - Fairly robust discovery available now, and time to take advantage

Competition among merger review tools

- **<u>Intuition</u>**:
  - UPP easily explained in terms of the tradeoff between margins and volume
  - "In GePP, the diversion ratio is not computed holding fixed the prices of all other goods but rather holding fixed the price of the merger partner's good and allowing all other prices to adjust as the merging firms would expect them to in equilibrium"
  - **Advantage: UPP**
  - Better intuition is only helpful if it is *correct* intuition
    - Under what conditions would UPP and GePP give different answers?
    - How common are those conditions and what real world indicia would be informative of the risk of Type I and Type II enforcement errors?
    - Role for Monte Carlo simulations

Competition among merger review tools (2)

- **<u>Post-HSR, pre-2R</u>**: Data are usually gathered too late in the process so there is little time for econometric *estimation of anything*
  - The screening period
  - UPP does not require *estimation of anything*
  - Firms often track things that are *diversion-like*
    - But often these are not based on changes in responses to price changes
    - Discount authorization forms
    - Win/Loss data; Sales force productivity tools
  - Firms rarely track things that are pass-through-like
  - Note that in some cases, estimation before 2R might be possible
    - Industries with public data and a track record of mergers
    - Hospitals (state discharge data), Airlines (DB1B)—lots of agency experience
  - **Advantage: UPP**

Competition among merger review tools (3)

- **<u>After issuance of a second request</u>**:
  - It really depends
  - Rolling production may facilitate more involved analyses
  - A "dump" of data and documents leaves the agency with 30 days to file a complaint or let the merger go through . . . involved analyses less likely
    - What can be done with public and third party data?

- **<u>Full trial</u>**:
  - UPP would likely frame intuition for (presumably) the government's theory of harm in unilateral effects cases
  - UPP not likely to presented as a substitute for market definition, merger simulation, or natural experiments

- **<u>Bottom line</u>**:
  - Pre-second request, UPP is much more likely to be feasible
    - Authors recognize this but suggest simplifying assumptions in the GePP approach
  - Post-second request, GePP competes in my mind more with *merger simulation* than with UPP.

Next steps

- Monte Carlo or other simulations to measure the range of circumstances where conclusions from UPP and GePP would differ
  - If I'm right that UPP will often be feasible when GePP would not, simulation would still be valuable regarding when UPP is most/least error-prone

- Empirical testing and validation
  - Merger simulation has not always fared well under ex post evaluation
    - Merger simulation holds a lot of factors equal that, in the real world, do not remain constant
  - E.g., What price effects would GePP predict if applied to the data in Peters, *J Law Econ* (2006)
    - "I find that standard simulation methods, which measure the effect of the change in ownership on unilateral pricing incentives, do not generally provide an accurate forecast. "