Discussion of "The Welfare Consequences of Mergers with Endogenous Product Choice" by Mazzeo, Seim and Varela

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Mergers and Product Choice

Agreed to be an important topic, understudied relative to importance.

Previous work (and not that much of this):

- Very simple theory models (e.g. Hotelling) looking for simple possible effects—business stealing, competition softening, entry deterrence, etc.
- Very simple descriptive work, pre- and post-merger—products may reposition and/or exit.
- Structural models with many effects (Fan 2012 and others)
- Complex dynamic models that are often about market structure, product positioning, entry and exit; get pre-emption effects, etc., but endogenous dynamic mergers are hard

Possible Approaches

the product space of papers

- Continuous product space (via a first-order condition) vs. Discrete Product Space (entry / exit)
- Ex-post vs. Ex-ante differentiation
- Static vs. Two-stage vs. Full Dynamics
- Complete vs. Incomplete Information

Informational Assumptions

If we are not doing real dynamics, there is a strong argument for complete information static Nash as an approximation to the "long-run equilibrium" if the environment is not changing much. Firms may settle (in some fashion) into an equilibrium where there is no longer any *ex post* regret. Otherwise, there is a strong argument for dynamics. Static incomplete information games "smooth" out" some existence problems, but face the problem of *ex post* regret ("costly mismatches") that are not corrected in (non-existent) future periods.

Here, though, the flexible information structure does introduce some interesting effects.

Computational Theory

Too realistic for theorems (not what Krugman approvingly calls a "silly model") but perhaps more stylized than a typical empirical structural model. This is an interesting, fruitful and treacherous model ground between theory and structural estimation.

Model

- Discrete possible locations
- "Random correlated intercept" mixed logit, giving a connection to both theory and empirical work.
- Incomplete information entry game, with a public signal of other firms' fixed cost. Nests both incomplete and complete information and (interestingly) allows for merged firm to coordinate on the basis of better information.
- Pre-merger single-product firms. Merged firm has up to 2 products, un-merged up to one.
- "Equi-distant products" is the base case.

The fixed-position three-product "equi-distant" model is pretty special

Multi-product firms are the rule, not the exception, even pre-merger. In general, some pairs of products are "closer" than others, and this is often the focus of an anti-trust analysis. A lot of the literature on product positioning (Hotelling) is all about changing the "distance" between products

In Berry-Waldfogel (2001) we found that merged radio firms operated many ratio stations in a market, in numerous formats. They tended to re-position jointly-owned stations so that they were in "different but nearby" formats and also to shut some stations. This later effect can happen here, but I don't think the first can happen.

Effects in the Model

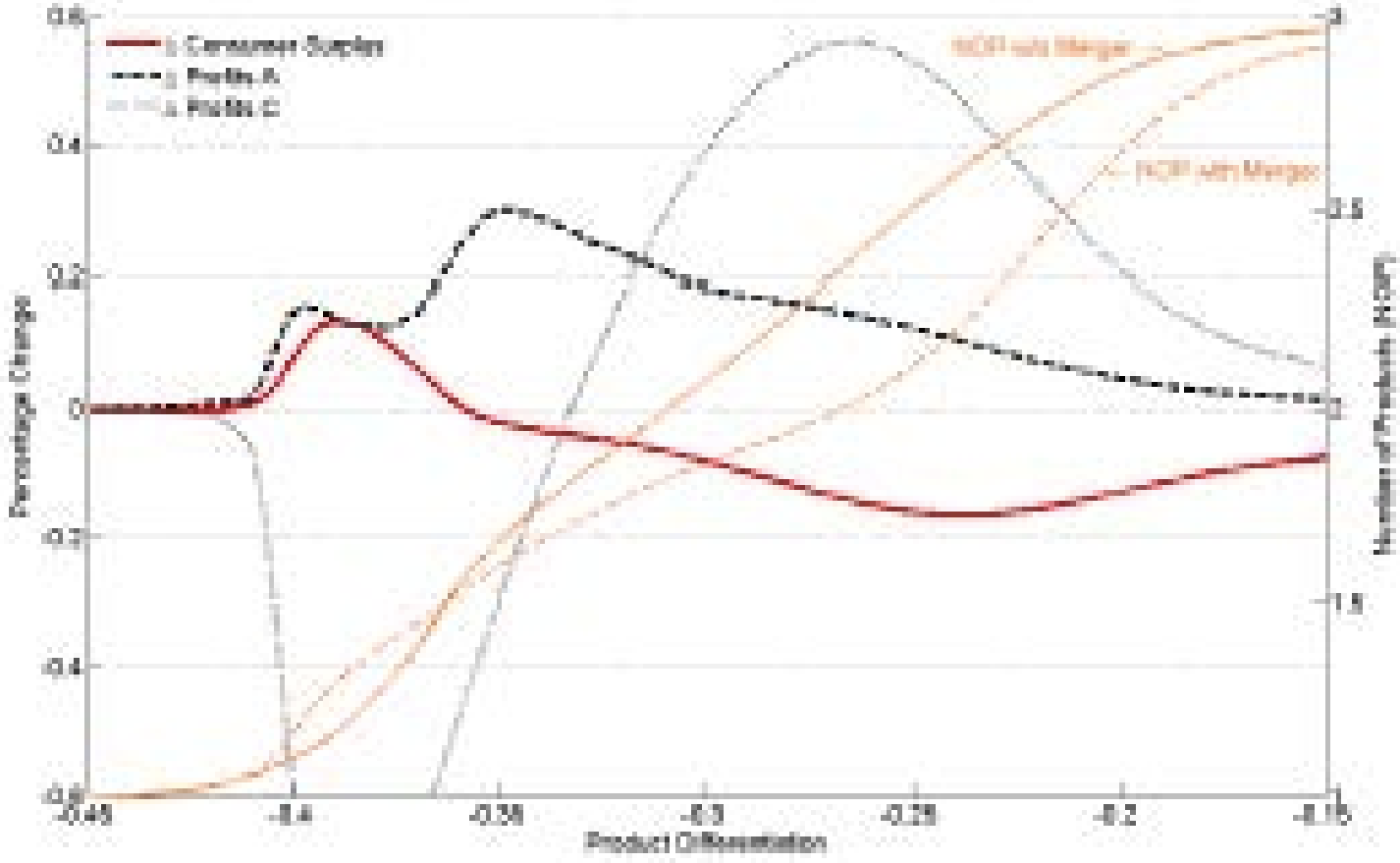
For various fixed levels of product differentiation (cross-price elasticities)

- Increased Prices (entry inducing?)
- "Saving on Fixed Cost" (exit)
- Cost Savings (lower fixed costs)
- "Coordinating on an Equilibrium" (via a change in the number of equilibria)
- Coordinating via the within firm informational advantage

But not: repositioning, quality improvements, etc., which would be partly intended to change the level of cross-price elasticities. Are these longer or shorter-term changes than exit?

"It's Complicated"

Figure 1: Net Effect of Merger as a Function of Degree of Product Differentiation: Three Equi-Distant Products



Results on the Various Effects

Probably best for the reader to focus on each "effect" in isolation, tracing the change on a single graph, as to isolate a single effect the authors implement other important simultaneous changes to the model.

Conclusion

The paper is a surely correct plea to try to incorporate changes in the number / nature of offered products into merger simulations. The "computational theory" examples are illuminating, highlighting some novel effects, while as usual leaving out some important effects. The paper complements the existing literature, which is typically either descriptive, highly stylized theory (e.g. Hotelling) or else relatively complicated and specific structural modeling.