

# Mergers, Entry, and Consumer Welfare

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The analysis and conclusions set forth are those of the authors and do not indicate concurrence by other members of the Board research staff or the Board of Governors.

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# Horizontal Mergers

Increase market power

Create efficiencies

Spur entry

When does entry eliminate the adverse effects of an otherwise anti-competitive merger?

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- We provide a unified framework. Obtains perhaps surprisingly insights. Excited to share with you.
- Then develop implications for merger review and the *likely, timely, and sufficient* standard.

## Plan for the Talk

- The paper is very mathematical. Presentation goal is to convey intuition → graphical analysis.
- Market with 4 incumbents and one prospective entrant. Bertrand competition and logit demand.
- Some generalization is possible.
- All claimed results have been proved, though not all are in the current working paper.



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- ➋ Entry and efficiencies (together) can eliminate consumer surplus loss.
- ➌ Requires particular combinations of efficiencies and entry.
- ➍ The profit opportunity for entrants is small.
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## Related Literature

- ① **Sufficiency of Entry:** Werden and Froeb (1998), Spector (2003)

*Mergers might not be profitable if entry is sufficient. Numerical evidence for Bertrand / logit, proof for Cournot.*

- ② **Merger Efficiencies:** Werden (1996), Froeb and Werden (1998), Nocke and Whinston (2020).

*There exists “critical” cost / quality efficiencies which exactly compensate consumers for loss of competition.*

- ③ **Efficiencies and Entry:** Cabral (2003), Erkal and Piccinin (2010)

*Efficiencies reduce profitability of entry. But there are more connections to be developed...*

- ④ **Methodological:** Nocke and Schutz (2018), Anderson et al (2018)

*In a Bertrand / logit model, a firm can be characterized by a type that summarizes the quality and costs of all its products.*

# Framework and Results



# Model as a Three-Stage Game

Agents: Incumbents ( $f = 1, \dots, F - 1$ ) and an outsider ( $f = F$ ).

Differentiated products (logit) and constant marginal costs.

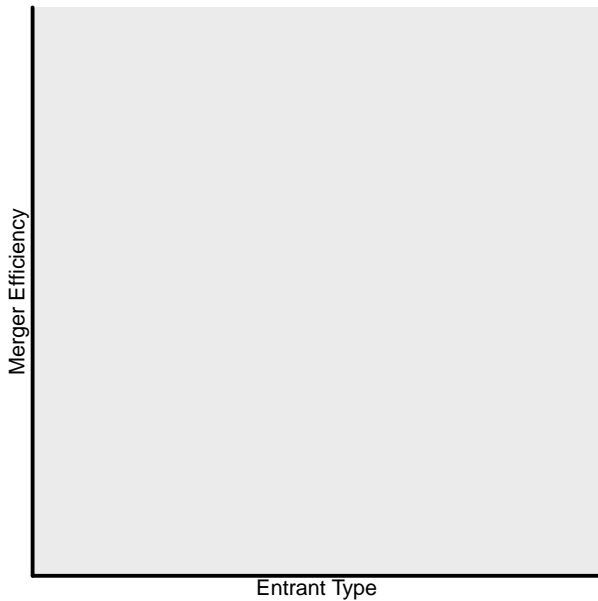
The agents play the following three-stage game:

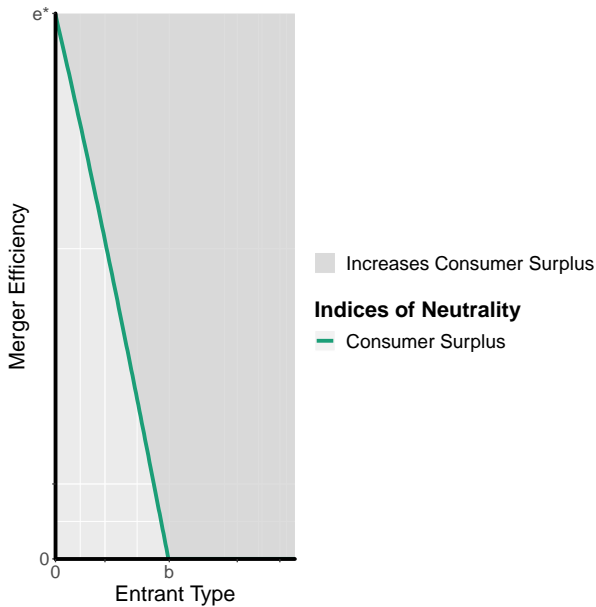
- 1 Two incumbents decide whether to merge (possibly with efficiencies).
- 2 An outsider decides whether to enter the market.
- 3 All firms in the market compete in prices à la Bertrand and earn profit.

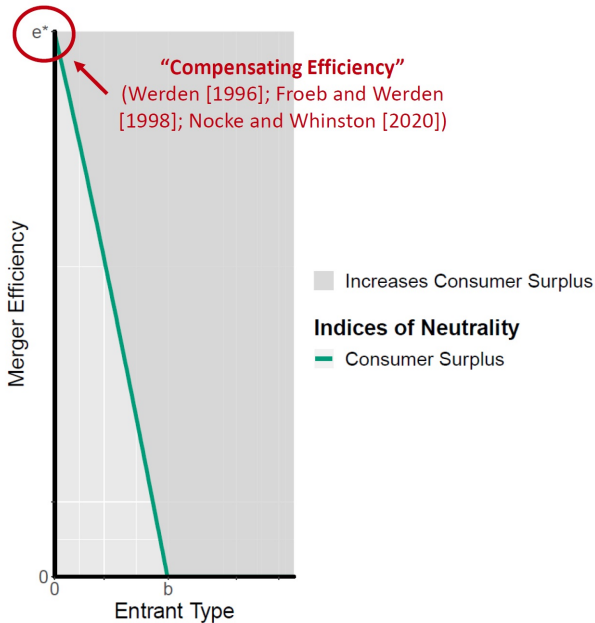
Examine SPE with merger-induced entry. Apply the Nocke-Schutz (2018 ECMA) *type-aggregation* representation of the model.

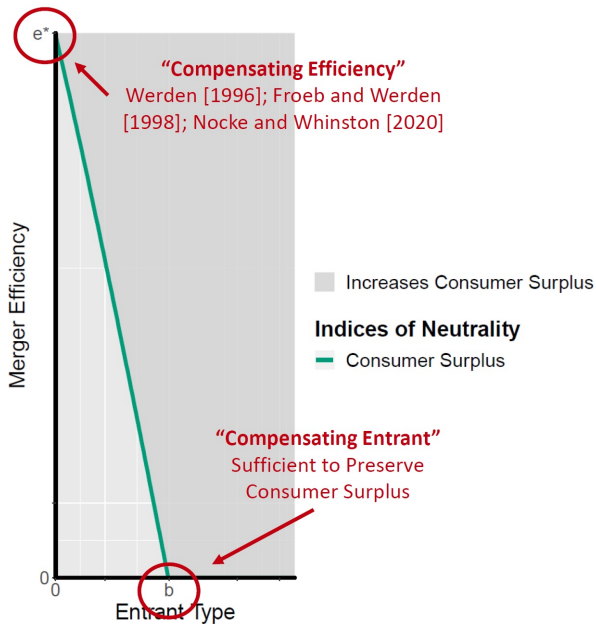
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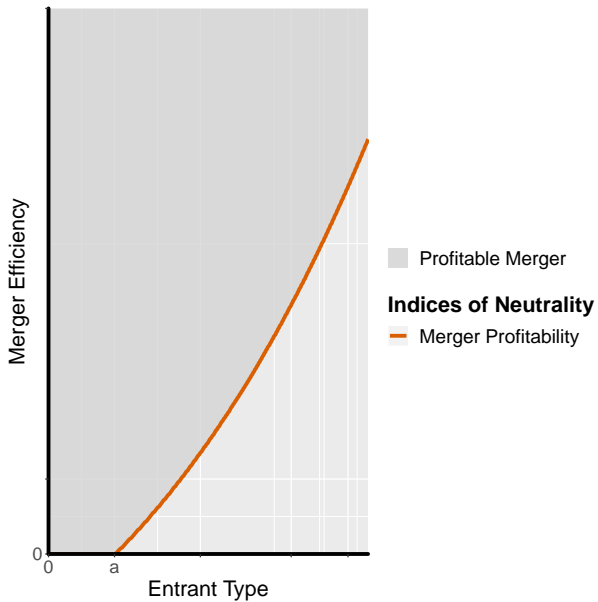
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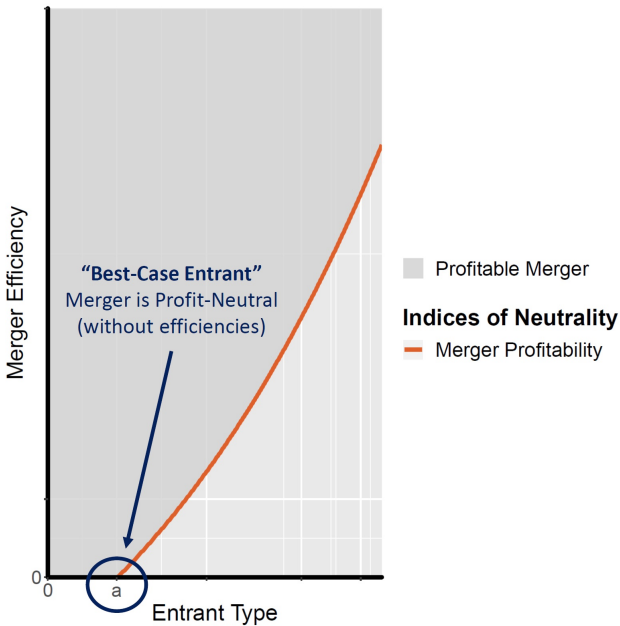




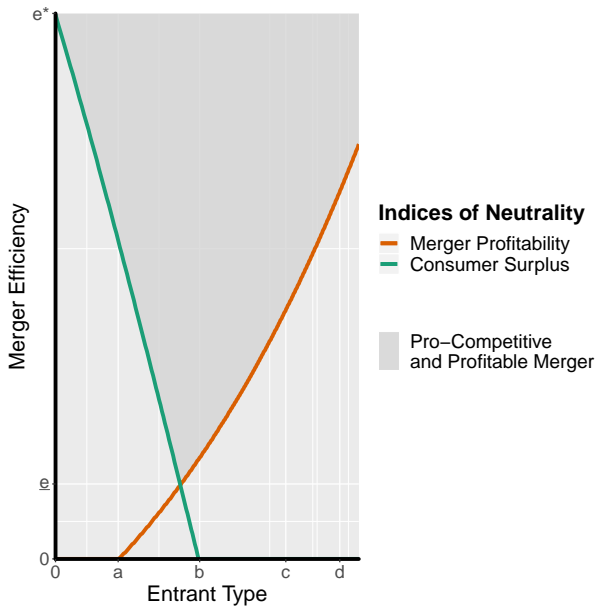


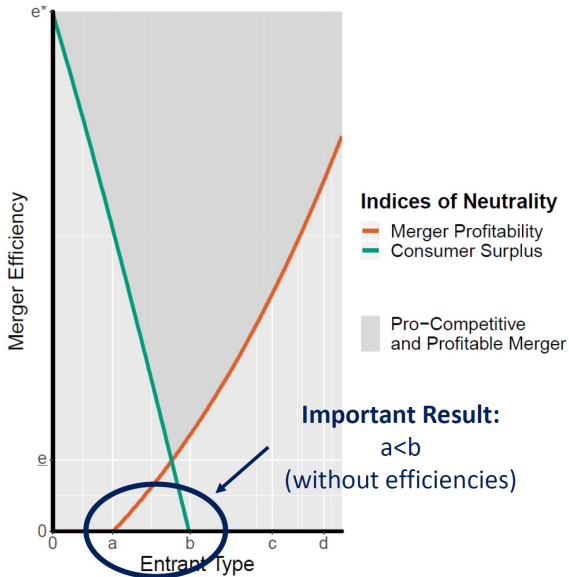












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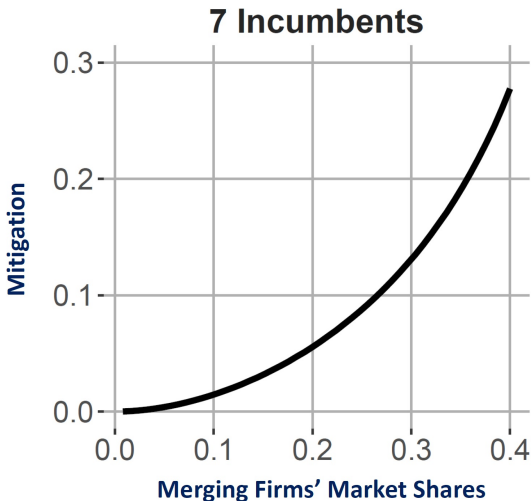
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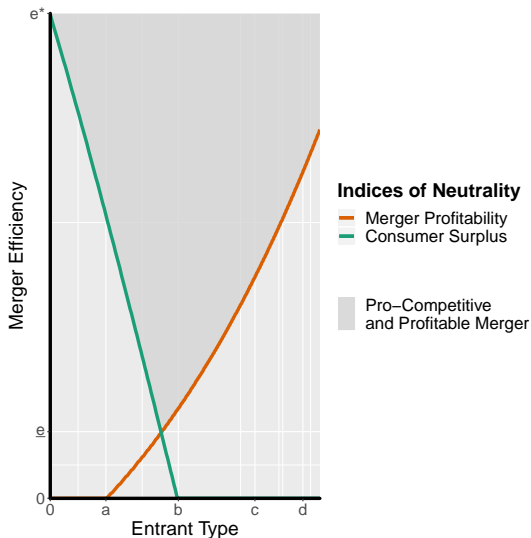
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- (Aside: no post-merger entry in efficient procurement auction models.)

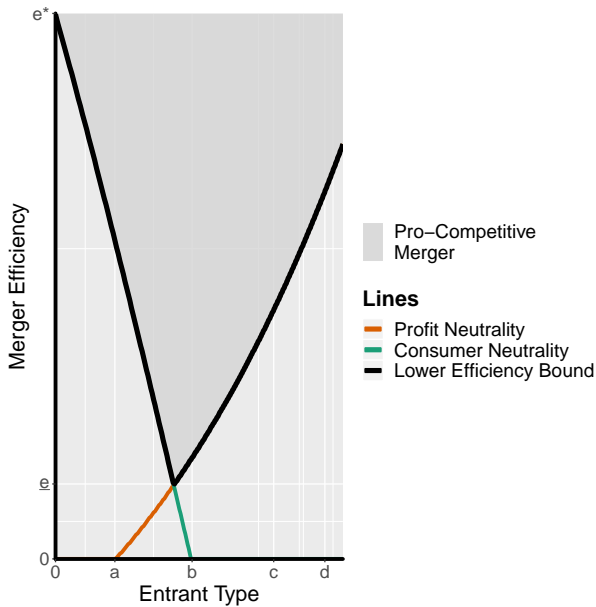
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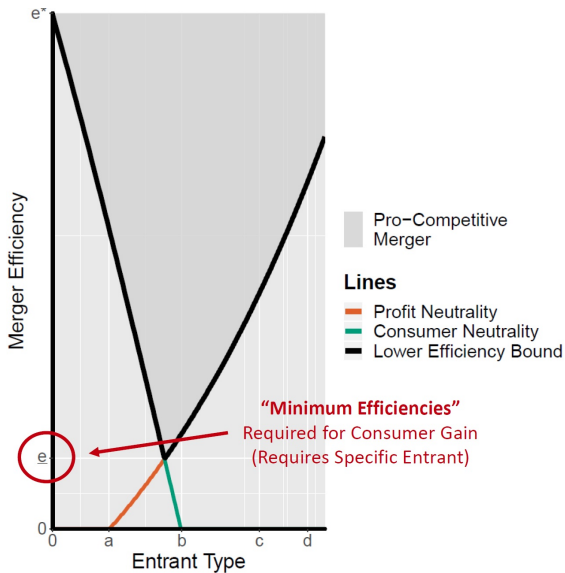
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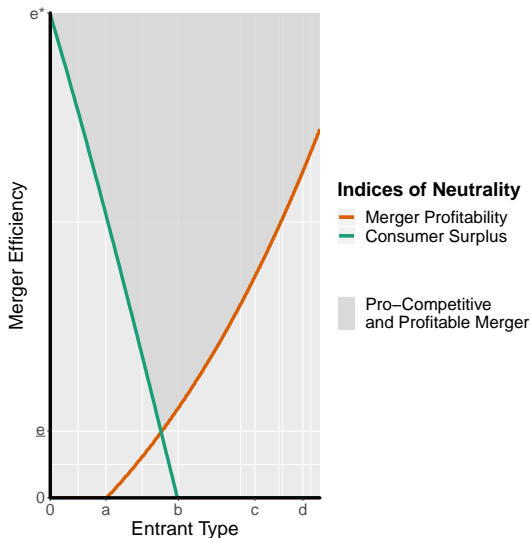
# Back on Track: Entry and Efficiencies

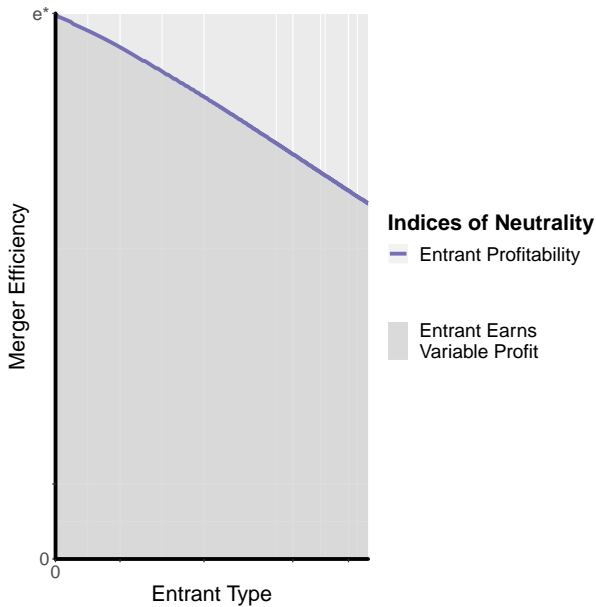




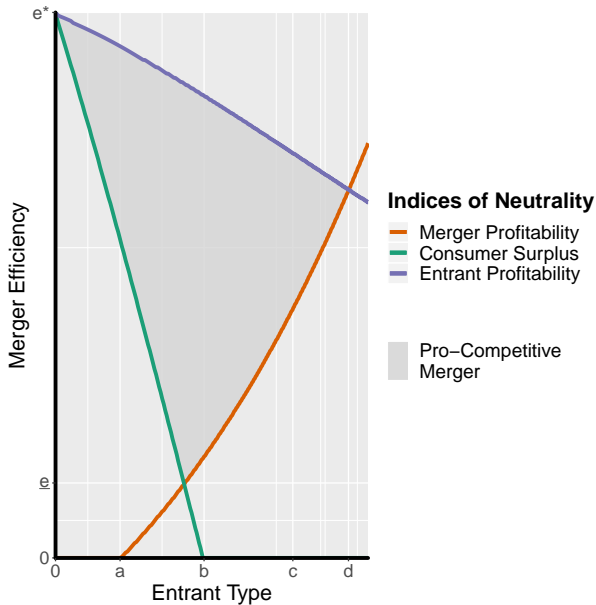


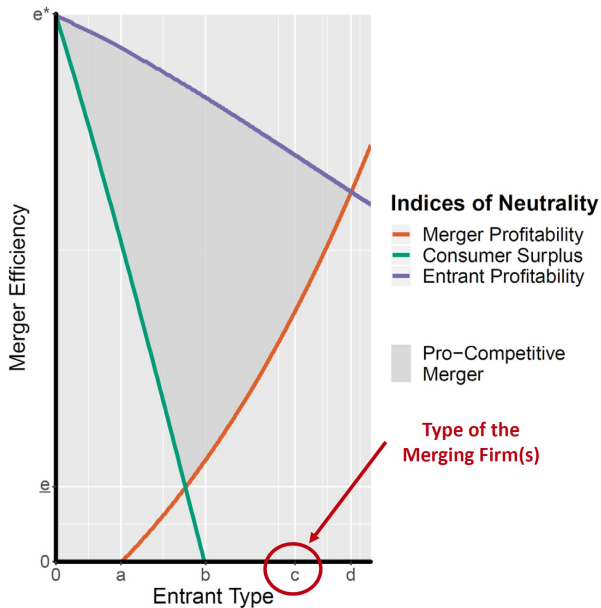
# What About the Entrant's Profit?

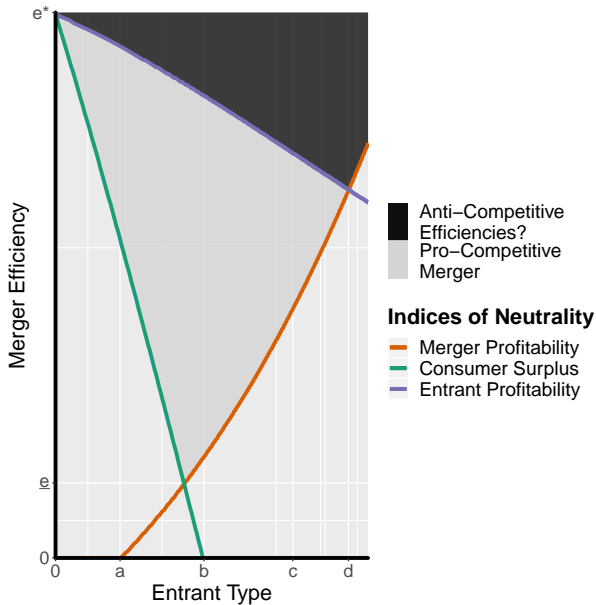






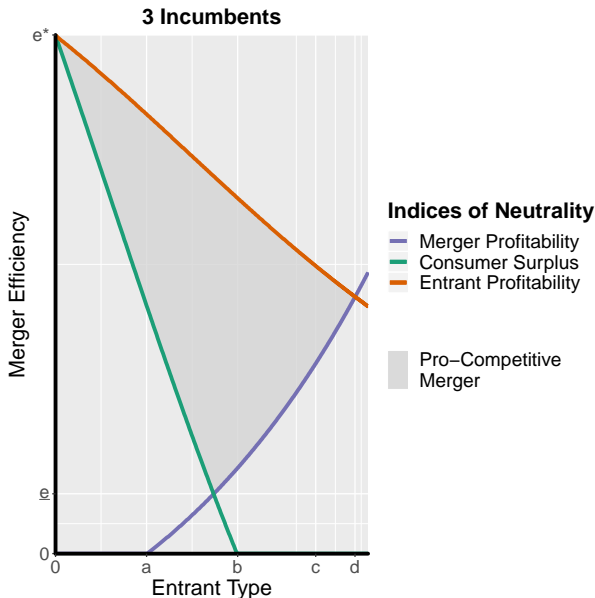




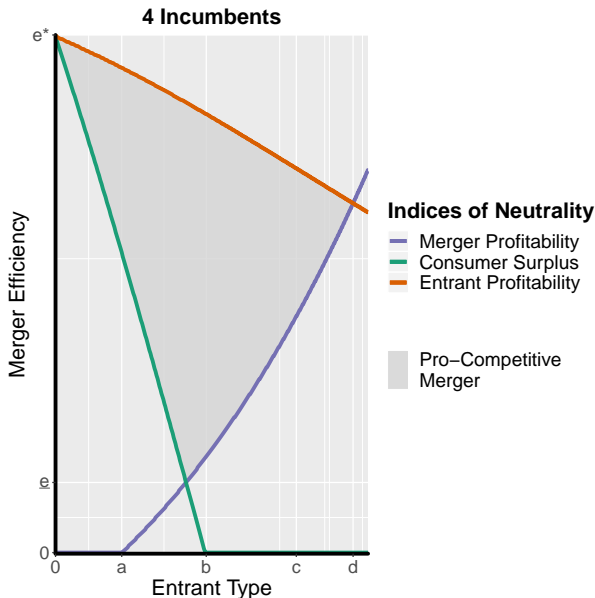


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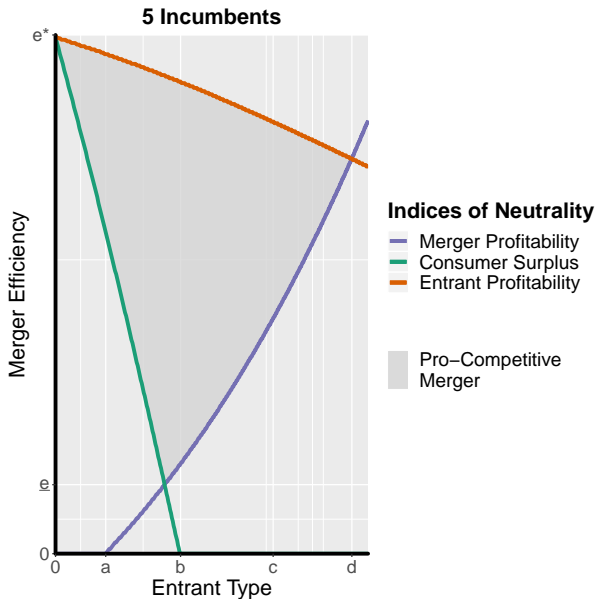
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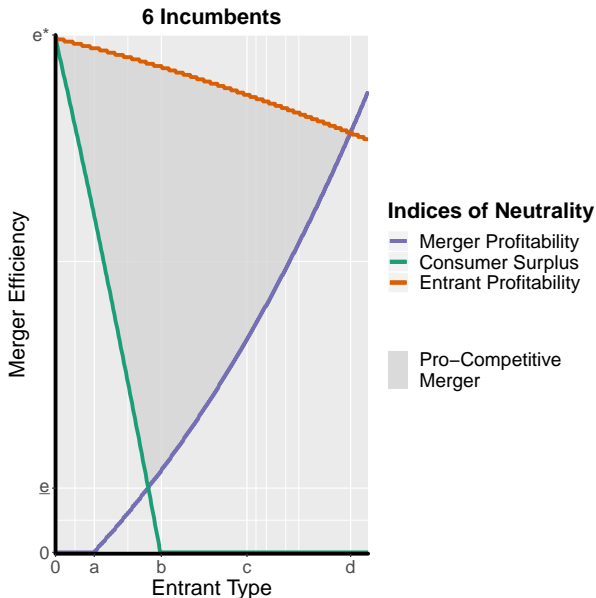
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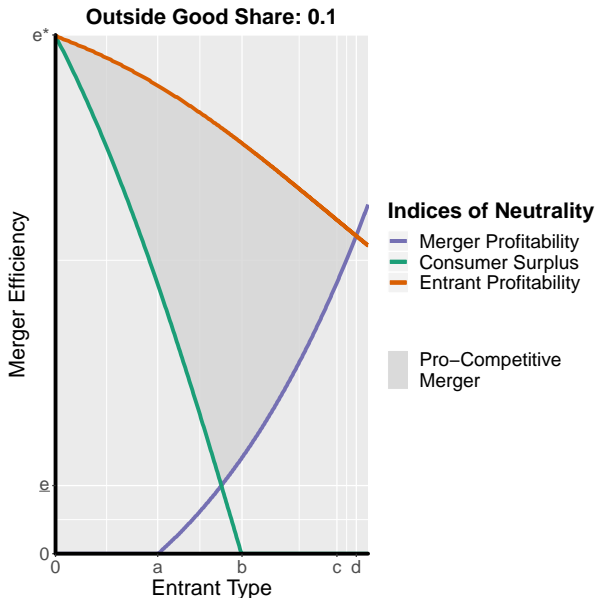


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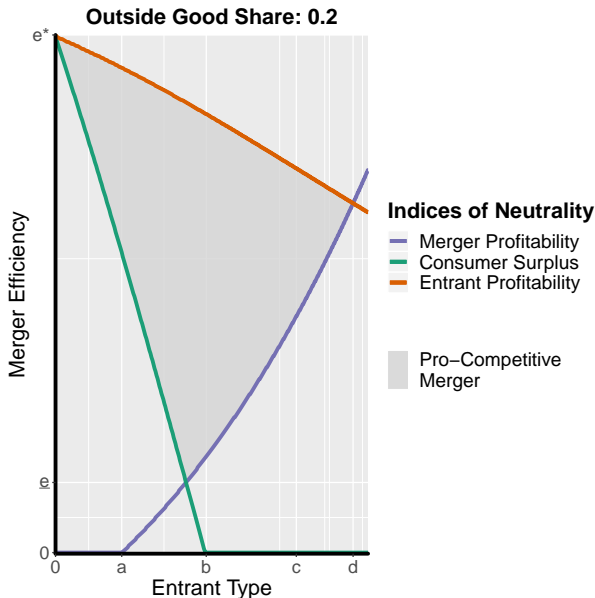




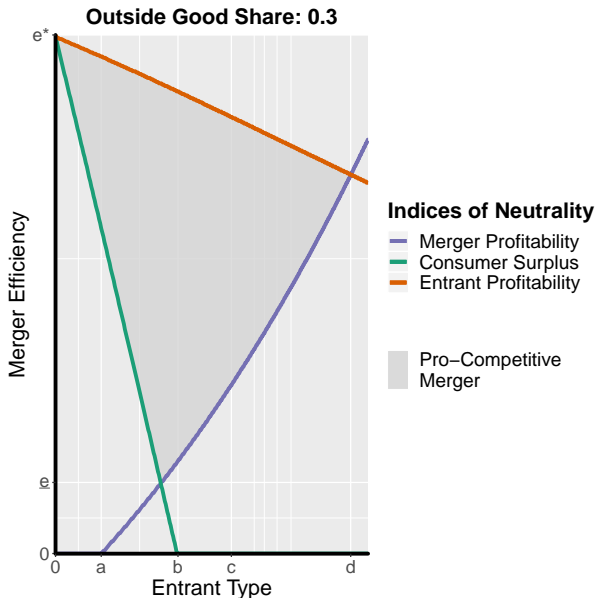
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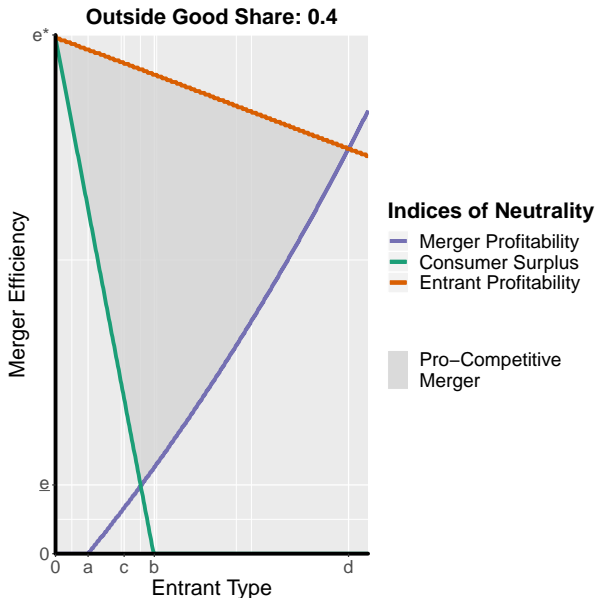
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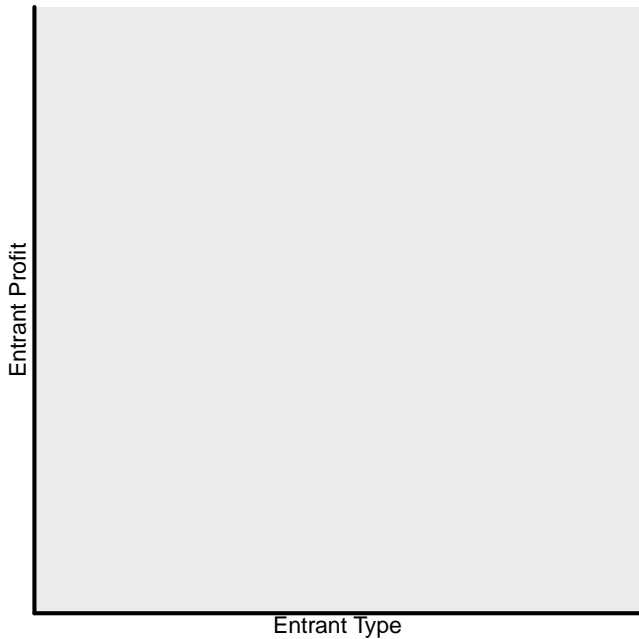


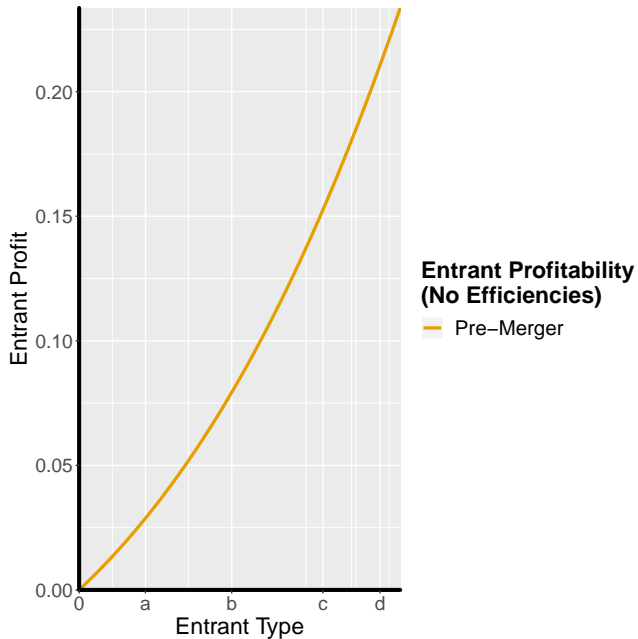
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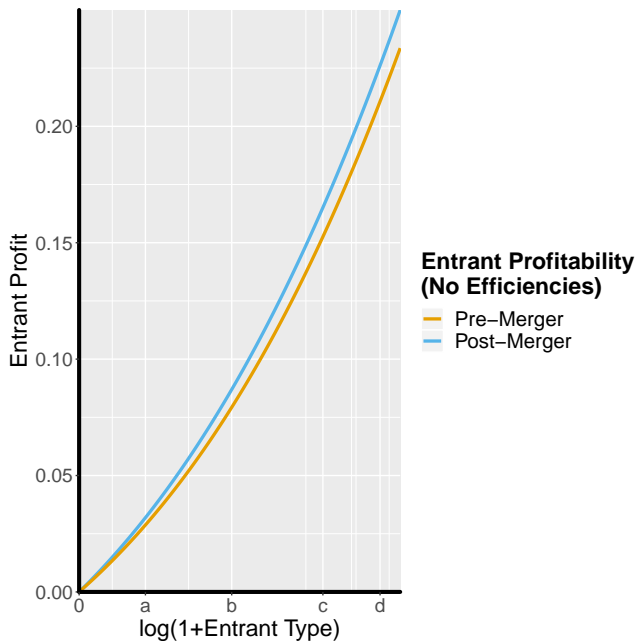
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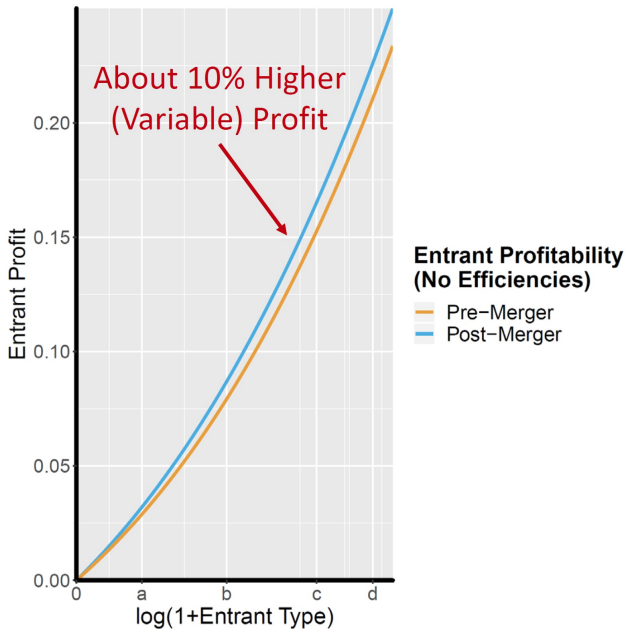
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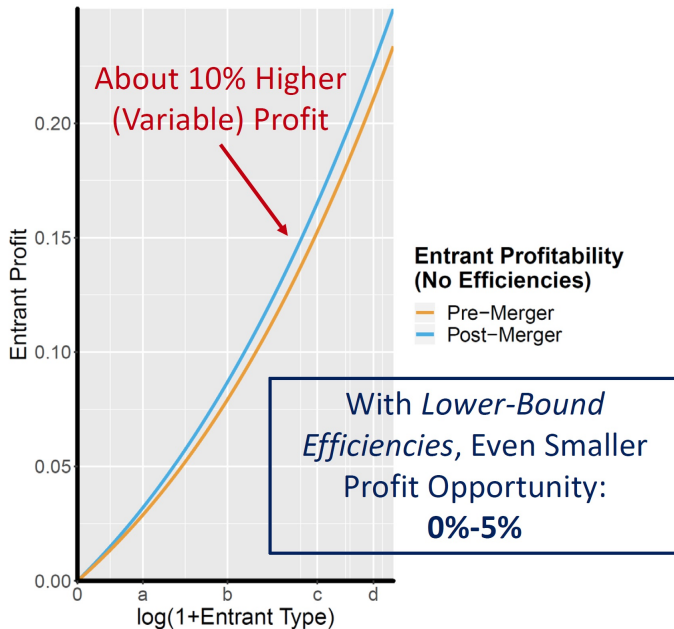


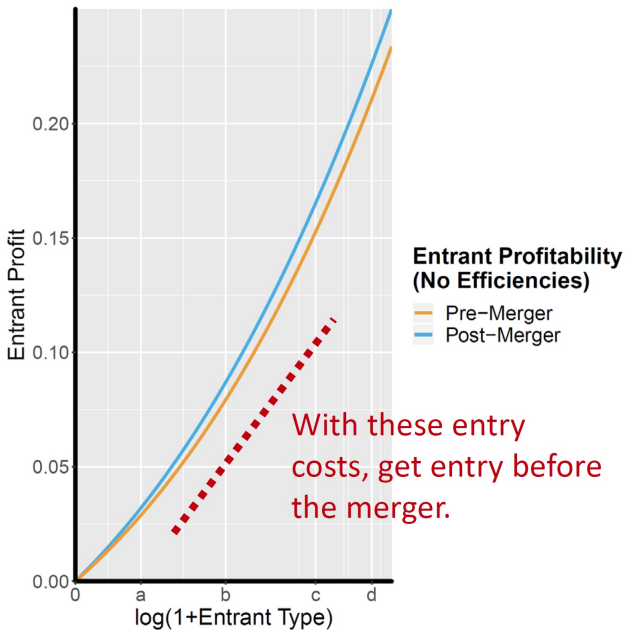


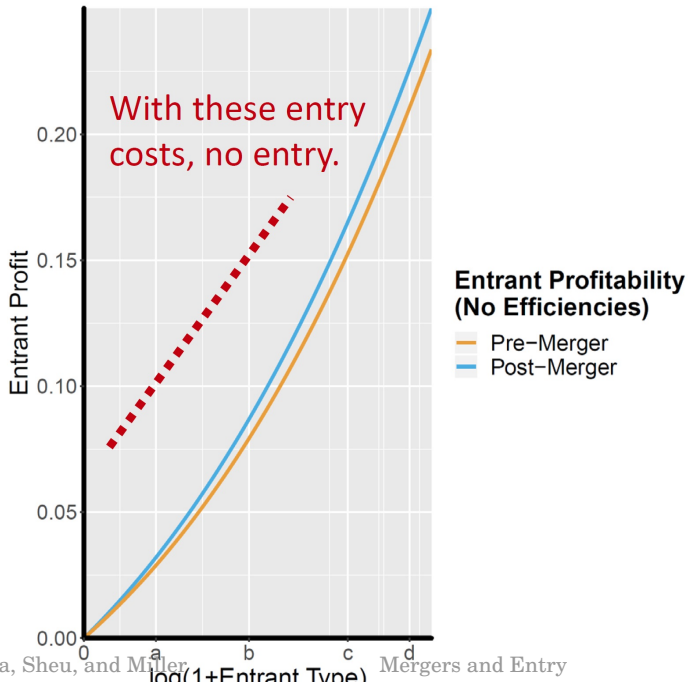


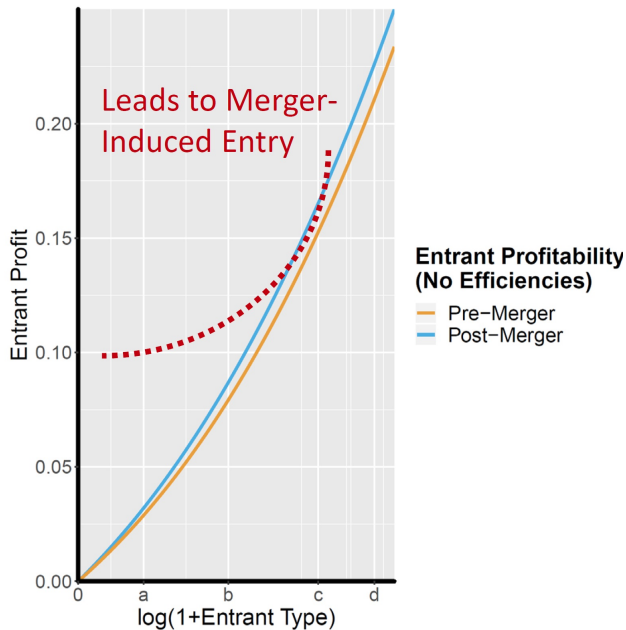












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Even if entry seems feasible, the “confidence interval” for predictions will probably incorporate the possibility (or probability?) of no merger-induced entry.

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# Topics For Discussion

The framework is developed for perfect information, (static) Nash equilibria, one-shot game, only cognizable efficiencies.

Standard but also specific! Could consider:

- ➊ Imperfect information.
- ➋ Coordinated effects.
- ➌ Entry dynamics.
- ➍ Fixed cost efficiencies.
- ➎ Divestitures.

# Implications for Merger Review

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- “Timely, Likely, Sufficient” first appears in the 1992 U.S. HMG. Now in the 2010 U.S. HMG, and adopted by (at least) the EC, CCB. As best we can discern, motivated by a loose intuition that markets self-correct. But the game-theoretical underpinnings are surprisingly weak.
- Our baseline models (Cournot, Bertrand/logit) suggest that entry is never sufficient. In other, more complicated models, entry might be sufficient. This suggests a high evidentiary standard is appropriate.
- On top of that, however, the models suggest that there is no real path to reliably inferring that mergers would induce entry. The confidence bands are just too wide. Unclear how to approach this question.
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... it is time to bid the entry defense *tot ziens*.

**Thank You!**

