# THE WELFARE CONSEQUENCES OF MERGERS WITH ENDOGENOUS PRODUCT SELECTION

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# Motivation:
# Advancing Merger Simulations

Merger simulation techniques in differentiated-product industries focus on price changes following a merger, and calculate the resulting welfare impacts.

These "price-only" simulations abstract away from the possibility that industry participants will change their product offering decisions following a merger.

# Research Question

## Literature / Background

Nevo's (2000) approach "is not consistent with firms changing their strategies in other (than price) dimensions."

Peters (2006) – finds a substantial difference between the price-only merger simulation results and the price effects of actual mergers.

Theoretical (Gandhi et al, 2008) and empirical (Fan, 2012) simulations with continuous product characteristics.

Examples of merger cases that cite potential issues related to product offerings (culling products, entry by rivals, synergies) with *ad hoc* analysis of impacts.

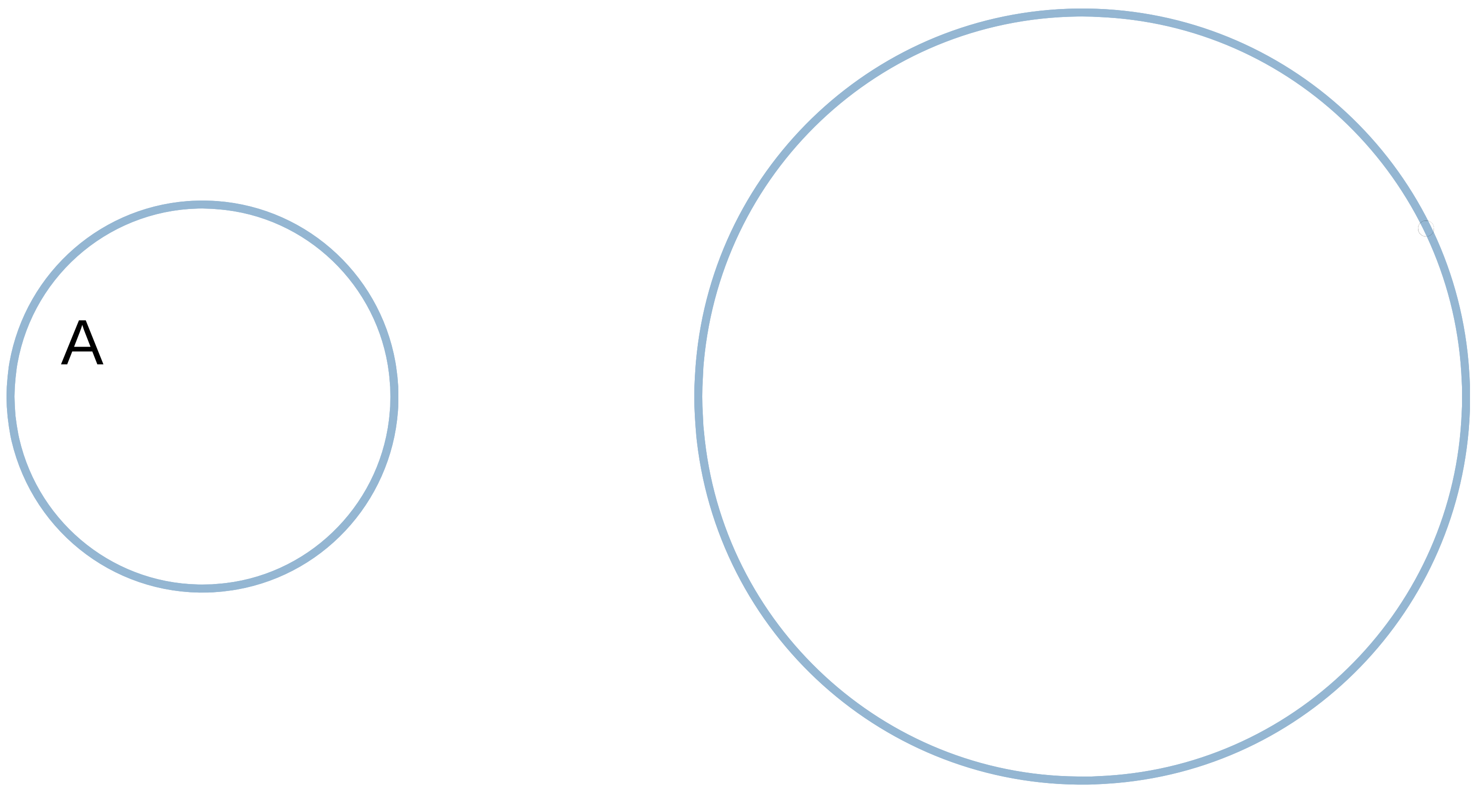
# Model and Simulations (1)

Differentiated product competition with endogenous price and product offerings

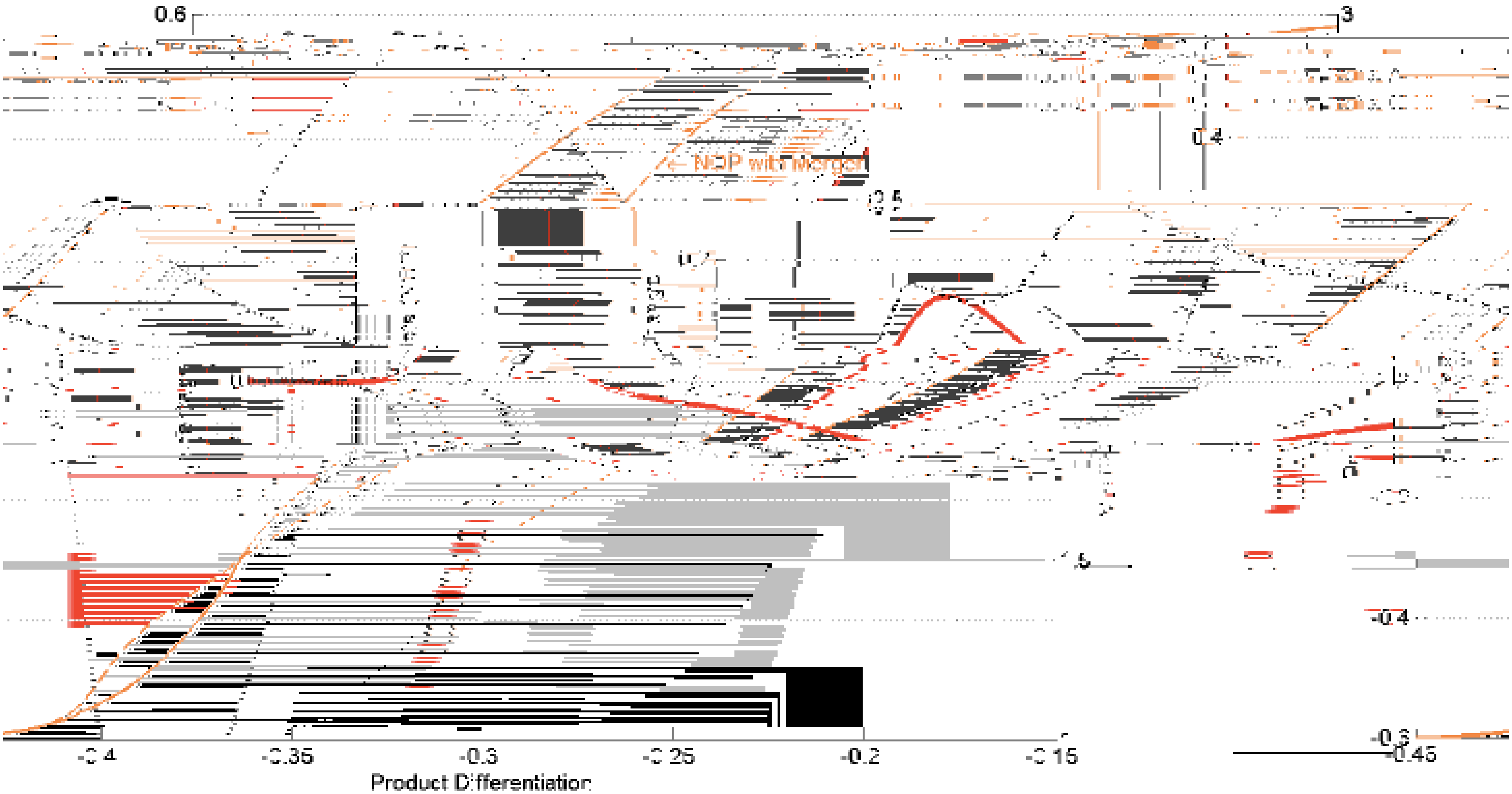
# Model and Simulations (2)

# Model and Simulations (3)

- Across the simulations, we vary the extent of differentiation among the competing firms' products
- The extent of product differentiation is help fixed when comparing pre-merger to post-merger outcomes



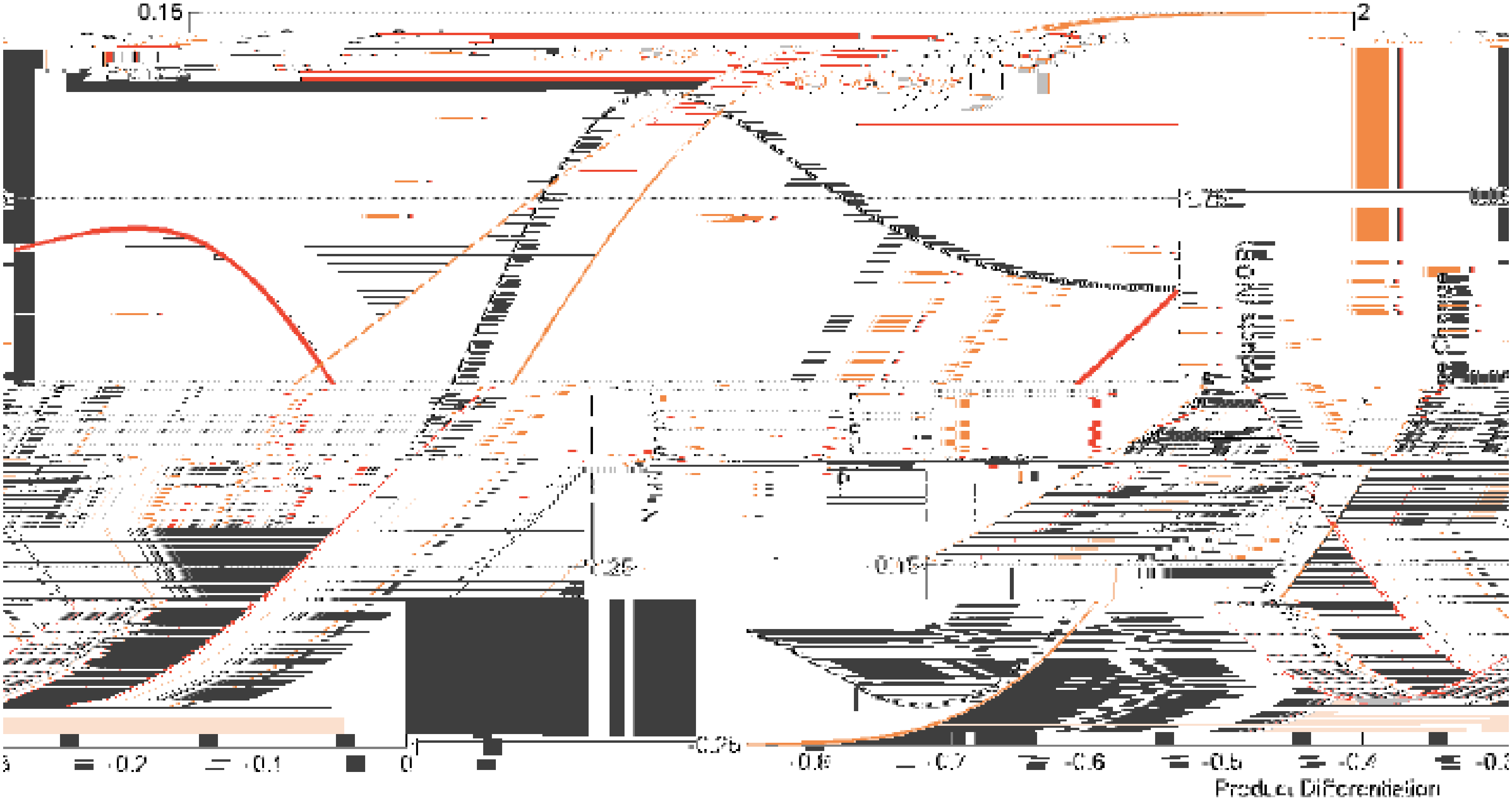
# “Results”



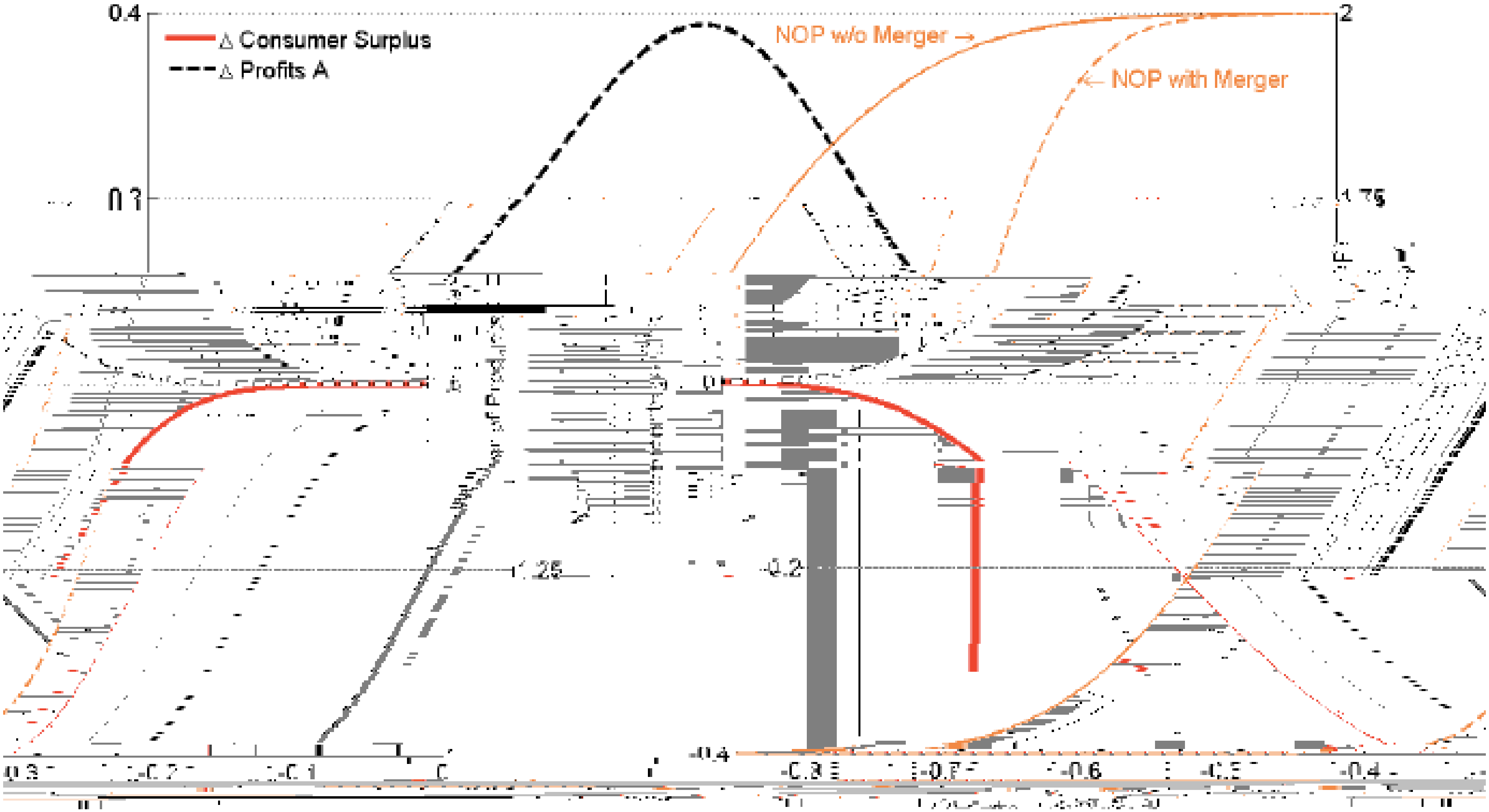
# Summary of “Results”

- “Overall” effects range from relatively large to null
  - Depending on the extent of product differentiation; which determine pre-merger equilibrium offerings
- We investigate possible mechanisms – reasons why firms might have an incentive to change post-merger offerings:
  - Higher prices induce additional offerings.
  - Fixed cost-savings from culling “similar” products.
  - Coordination (offer most-profitable product, excluding rivals, information – reducing *ex post* regret).
  - Fixed cost synergies allow more products to overcome the threshold to be offered.
- Simulations are designed to isolate each of these

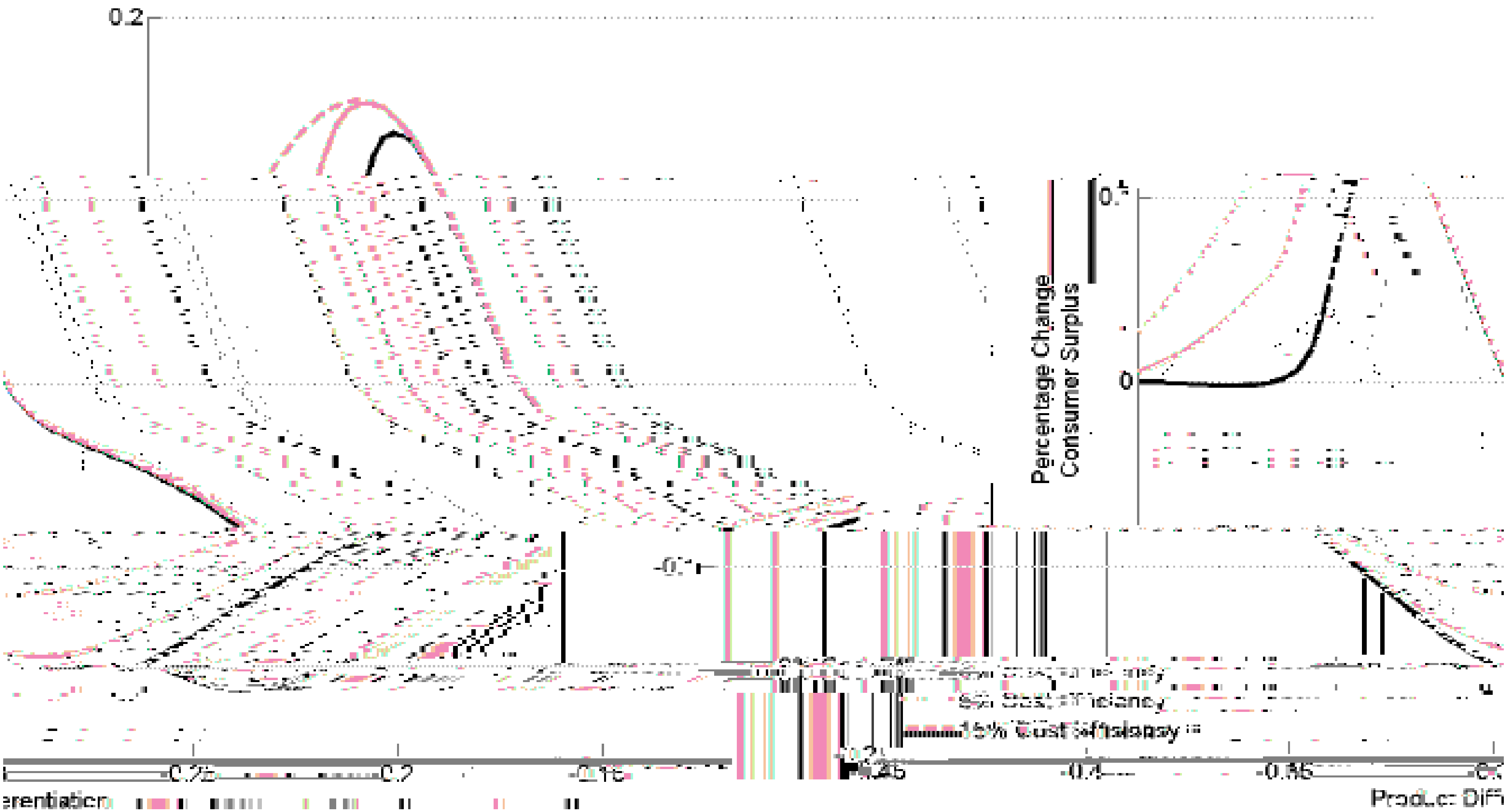
# Additional Entry From Higher Post-Merger Prices



# Cost Savings from Reducing Offerings



# Fixed-Cost Synergies Induce Entry



# Summary of Findings

- “Anything can happen” of course, but the simulations give an idea of the scope of the effect and what it depends on
  - Particularly, the extent of pre-merger differentiation.

- The two main mechanisms (price increases and cost savings) offs in terms of endogenous offerings and their impact on consumer welfare
  - Regulators/courts: beware arguments emphasizing one and ignoring the other.

- Future research: we are trying to find a suitable setting to estimate rather than simulate the model and see what the repositioning effects are with real data (challenges).

# APPENDIX

# Alternative Product Space Configurations

We relax the assumption that A, B & C are equi-distant and consider a couple of alternatives.

# Merging Parties are Differentiated (but one is closer to rival)

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