Bertrand Competition

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Bertrand Price Competition

- In many markets firms compete by directly setting prices

- **The basic model and concepts are presented here. We will discuss examples and relevance to specific biopharmaceuticals and healthcare markets in class**

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Name brand **(NB)** and store brand **(SB)** ***Loratadine***

Consumer views them as differentiated products

Illustrative demand functions, and costs

Let:

$Q_{NB} = 63.42 - 3.98P_{NB} + 2.25P_{SB}$

$MC_{NB} = \$4.96$ per box

$Q_{SB} = 49.52 - 5.48P_{SB} + 1.40P_{NB}$

$MC_{SB} = \$3.96$ per box

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Method: Using Profit Functions

Profit of NB: $\pi_{NB} = (P_{NB} - 4.96)(63.42 - 3.98P_{NB} + 2.25P_{SB})$

Profit of SB: $\pi_{SB} = (P_{SB} - 3.96)(49.52 - 5.48P_{SB} + 1.40P_{NB})$

Differentiate with respect to P_{NB} and P_{SB} respectively

Solving for equilibrium prices

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Solving gives the ***price-response*** functions:

$P_{NB} = 10.44 + 0.2826P_{SB}$

$P_{SB} = 6.49 + 0.1277P_{NB}$

Solve above 2 equations for equilibrium prices

In equilibrium: P>MC
Firms earn economic rents