Upward pricing pressure

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Upward pricing pressure (UPP): highlights

- A <u>simple</u> method for predicting the <u>direction</u> of unilateral merger price effects in <u>differentiated product</u> markets taking account of merger <u>efficiencies</u>

- "UPP" is a new acronym that is based on "old" economics

- Highlights the importance of <u>margins</u> and <u>diversion ratios</u> in predicting unilateral effects

- Value of UPP for litigating competitive effects still open

UPP is based on Old Economics

- Traditional HHI (share) analysis may be misleading in markets with differentiated products

  - Competition may be strong between two firms with small shares
  - Competition may be weak between two firms with different characteristics even if their shares are high

- Farrell and Shapiro proposed UPP to address this shortcoming

- Derived from old economics: Bertrand pricing model for markets with differentiated products

  - When products are imperfect substitutes, firms may set their own prices, taking competitor prices as given
  - Permits a product to compete more strongly with some alternatives than others
  - Easily accounts for efficiencies

Unilateral pricing: choose price to balance competing incentives

Incentives to raise price

- Higher price means higher margins on sales
  - But on fewer sales

Incentives to lower price

- Lower price generates profits through new sales
  - But at a reduced margin

Merger causes new or changed incentives:

- Higher price increases sales and profits for the acquired product (diversion)

- Reduced cost (efficiencies) increases the value of each new sale generated by a lower price (efficiencies)

UPP measures the net effect of these new or changed incentives

The UPP formula

- Example: A merger between firms 1 and 2
  - Newco contemplates changing the price of good 1

- Net upward pricing pressure for good 1:
$$UPP_1 = (p_2 - c_2)\, D_{12} - \Delta c_1$$
  - Where:
    - $p_2 - c_2$ is the pre-merger margin on each sale of good 2
    - D_{12} is the diversion ratio from good 1 to good 2
      > The proportion of lost sales of good 1 that divert to good 2 when p_1 increases
    - Δc_1 is the marginal cost reduction (efficiency) for good 1 (in $, not %)

- If Newco raises the price of good 1 just enough to lose one sale, then UPP is the difference between:
  - The incremental profit on new sales of good 2: $(p_2 - c_2)\, D_{12}$
  - The value of efficiencies on the lost sale: Δc_1

UPP can be used to calculate "price neutral" efficiency levels

Efficiencies for which UPP is zero (symmetric firms)

Diversion	Percentage Margin							
	10%	20%	30%	40%	50%	60%	70%	80%
1/2	5.6%	12.5%	21.4%	33.3%	50.0%	75.0%	116.7%	200.0%
1/3	3.7%	8.3%	14.3%	22.2%	33.3%	50.0%	77.8%	133.3%
1/4	2.8%	6.3%	10.7%	16.7%	25.0%	37.5%	58.3%	100.0%
1/5	2.2%	5.0%	8.6%	13.3%	20.0%	30.0%	46.7%	80.0%
1/6	1.9%	4.2%	7.1%	11.1%	16.7%	25.0%	38.9%	66.7%
1/7	1.6%	3.6%	6.1%	9.5%	14.3%	21.4%	33.3%	57.1%
1/8	1.4%	3.1%	5.4%	8.3%	12.5%	18.8%	29.2%	50.0%
1/9	1.2%	2.8%	4.8%	7.4%	11.1%	16.7%	25.9%	44.4%

- Pre-merger margins and diversion ratios are both important
- UPP may draw attention to high margin deals even when diversion ratios are small
- UPP may be small for low margin deals even when diversion ratios are large

UPP as an alternative to HHI analysis

- UPP originally proposed as a preliminary merger screen
  - Assume a "default" level of efficiencies
  - Flag transactions for quick clearance or further investigation
  - Theory does not predict a "right" default level of efficiencies

- Not embraced for this purpose in the 2010 Merger Guidelines
  - Still useful in discussions about competitive effects
    "The Agencies rely much more on the value of diverted sales than on the level of HHI for diagnosing unilateral price effects in markets with differentiated products."

- Value in litigation?
  - *City of New York v. Group Health Incorporated*
    - "[T]he applicable case law requires plaintiffs to allege a market…The City…does not explain how [UPP] can substitute for a definition of the relevant market."
    - UPP not a replacement for market definition in the 2nd Circuit
  - Value for litigating competitive effects still open

Practical Details

- UPP does not account for feedback effects
  - If UPP is negative for good 1 and positive for good 2 we cannot be sure that price of good 2 will rise
  - Could be a problem when efficiencies are asymetric
- UPP has similar information requirements to merger simulation
  - But does not require information about the shape of consumer demand
- Sometimes shares are used to approximate diversion ratios
  - Not an implication of the underlying theory
  - Need to think carefully whether this is a reasonable assumption in each case
  - If we rely on shares we need to ask "share of what?"
    - Back to market definition?
- Need to measure appropriate margins or marginal costs

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