Horizontal Mergers Among IP Licensors and IP Licensees

GMU Nat'l Center for Tech. and Law:

MERGER ANALYSIS IN HIGH TECHNOLOGY MARKETS

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Joint Work

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- DISCLAIMER: EXPLORATORY ANALYSIS

Outline

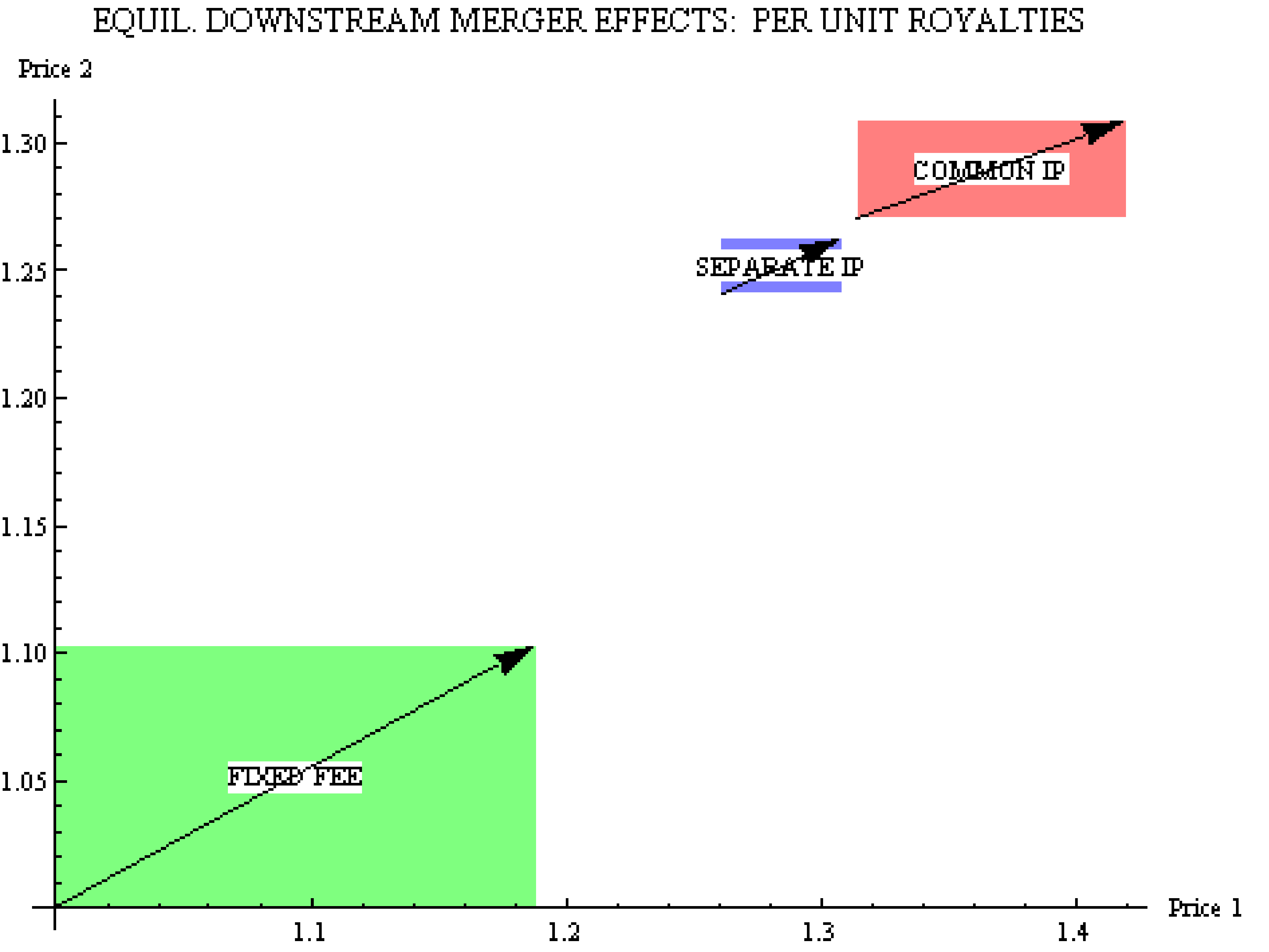
- Motivation: merger analysis
- QUESTION 1: Are horizontal merger effects affected by upstream/downstream vertical relationships?
- QUESTION 2: What Happens when you ignore upstream and/or downstream vertical relationships?

Related Work: UPSTREAM MERGERS & DOWNSTREAM MONOPOLIST

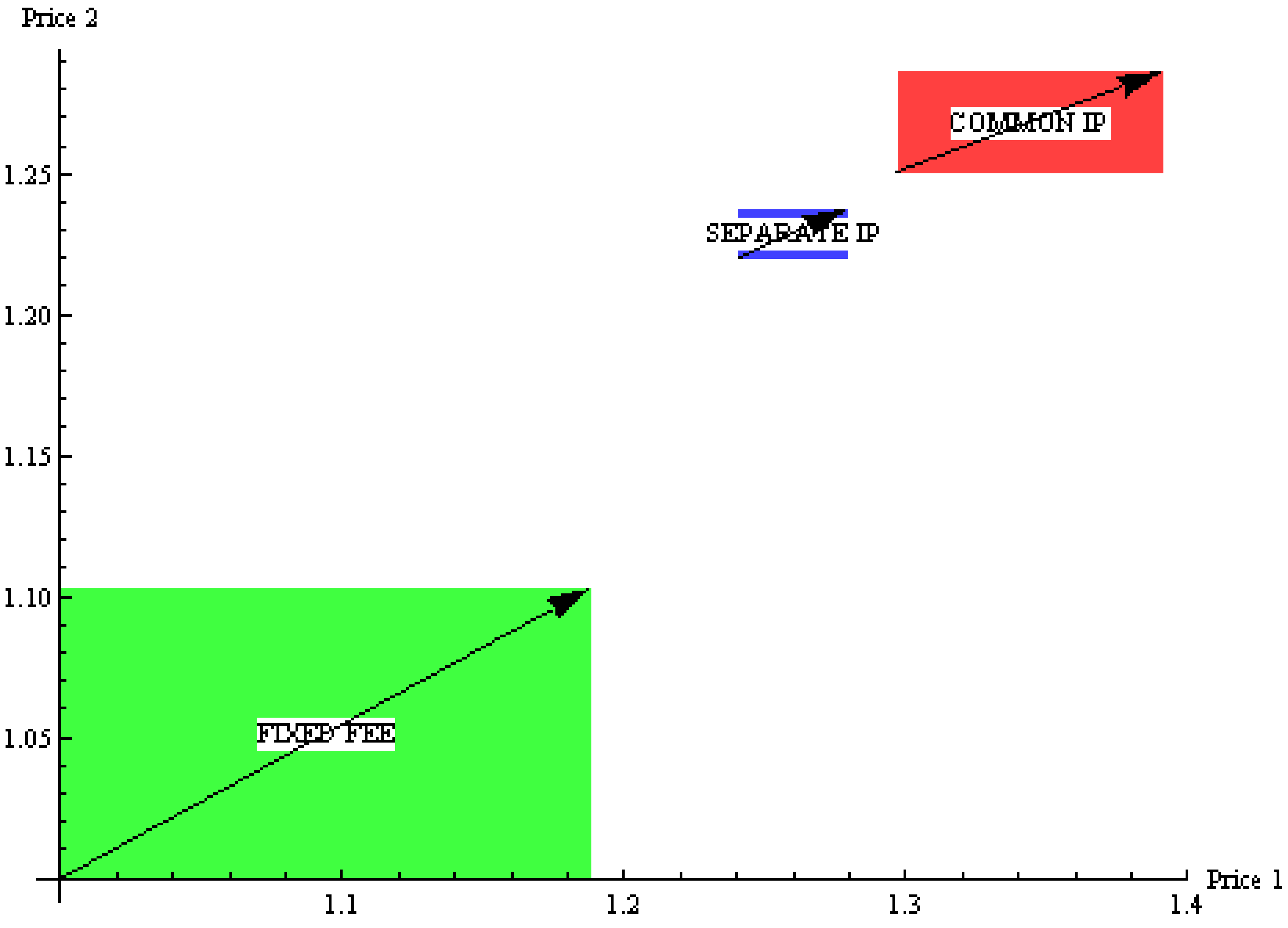
- Monopoly retail sector can (i) amplify, (ii) attenuate, (iii) block, or (iv) pass through upstream merger price effects, depending on the vertical contract
  - Froeb, Luke, Steven Tschantz, and Gregory Werden, Vertical Restraints and the Effects of Upstream Horizontal Mergers, *The Political Economy of Antitrust*, Vivek Ghosal and Johann Stennek (Eds.), Amsterdam: North-Holland Publishing, (2006).
  - O’Brien, Daniel P., and Greg Shaffer, “Bargaining, Bundling, and Clout: The Portfolio Effects of Horizontal Mergers,” RAND Journal of Economics, 36(3) (Autumn 2005), 573–95.

DOWNSTREAM merger with upstream licensors

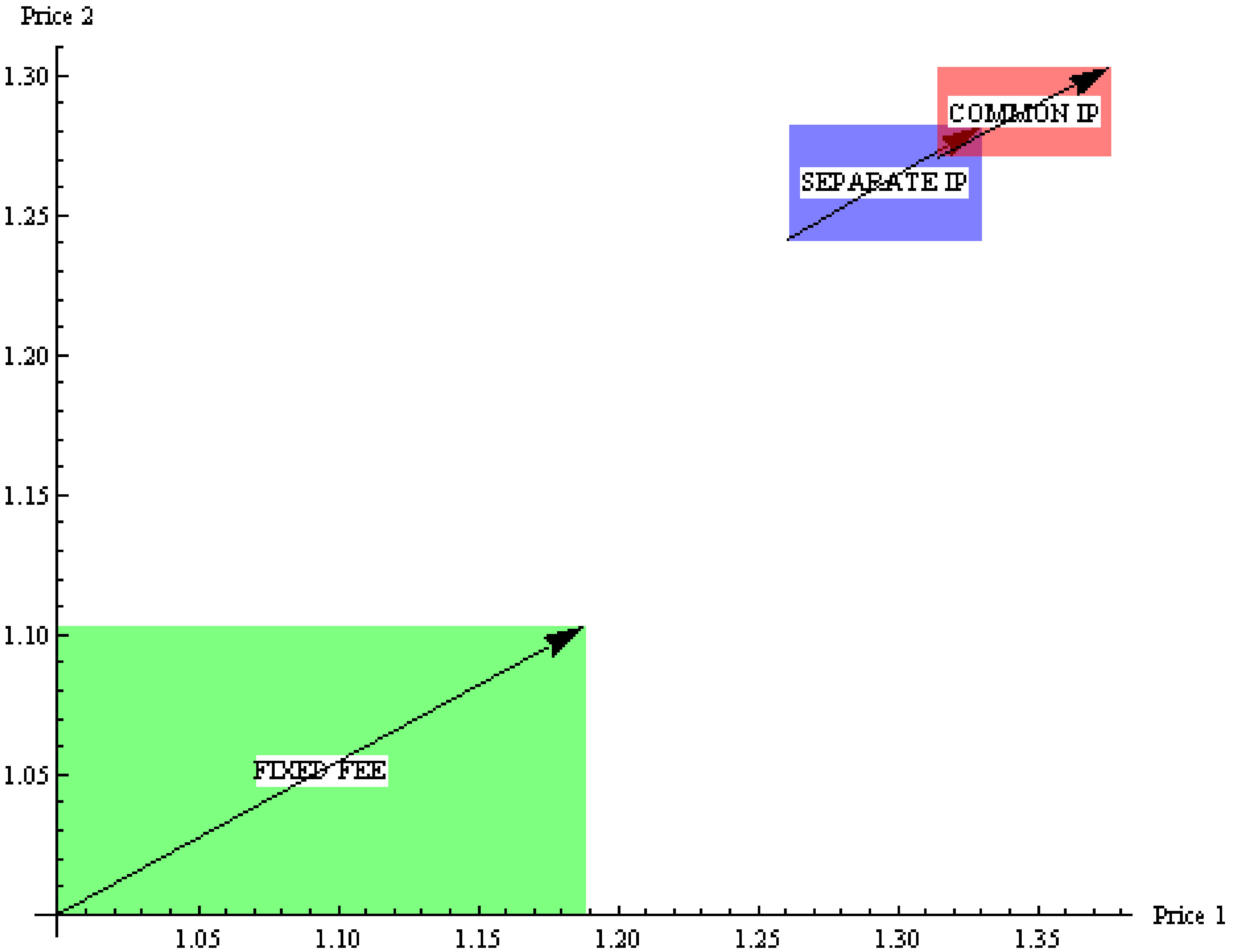
- Two downstream (exclusive) licensees, static Bertrand
- Two upstream IP licensors, set independent license fees given downstream competition
- Exogenously given vertical contract form:
  - Efficient (fixed fee) contract
  - Per unit royalty
  - % rev royalty
- Exogenous upstream or downstream merger
  - Equilibrium adjustment of royalty
  - No adjustment of royalty

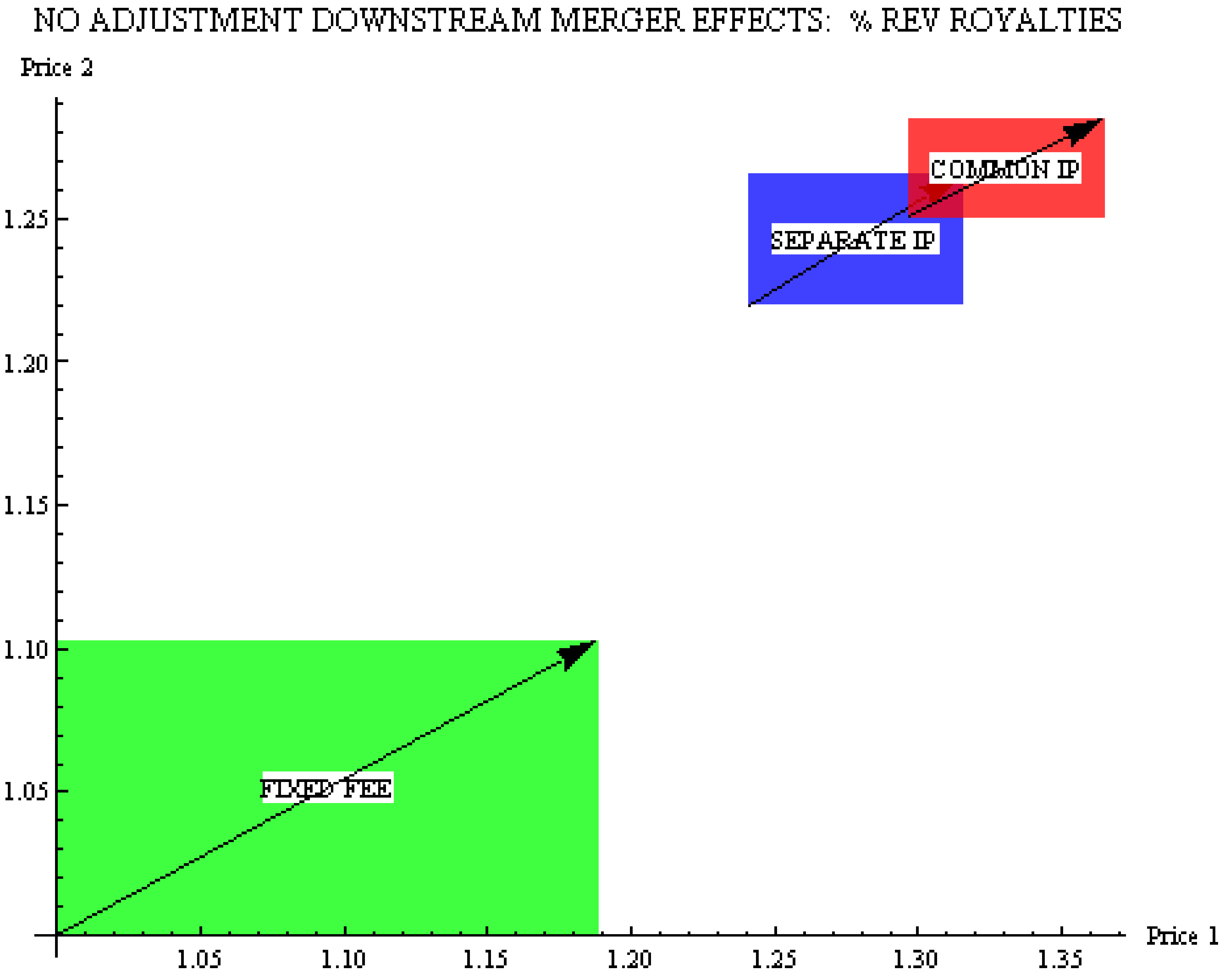

EQUIL. DOWNSTREAM MERGER EFFECTS: PER UNIT ROYALTIES
Price 2
1.30
1.25
1.20
1.15
1.10
1.05
COMMON IP
SEPARATE IP
FIXED FEE
1.1
1.2
1.3
1.4
Price 1

EQUIL. DOWNSTREAM MERGER EFFECTS: % REV ROYALTIES



NO ADJUSTMENT DOWNSTREAM MERGER EFFECTS: PER UNIT ROYALTIES

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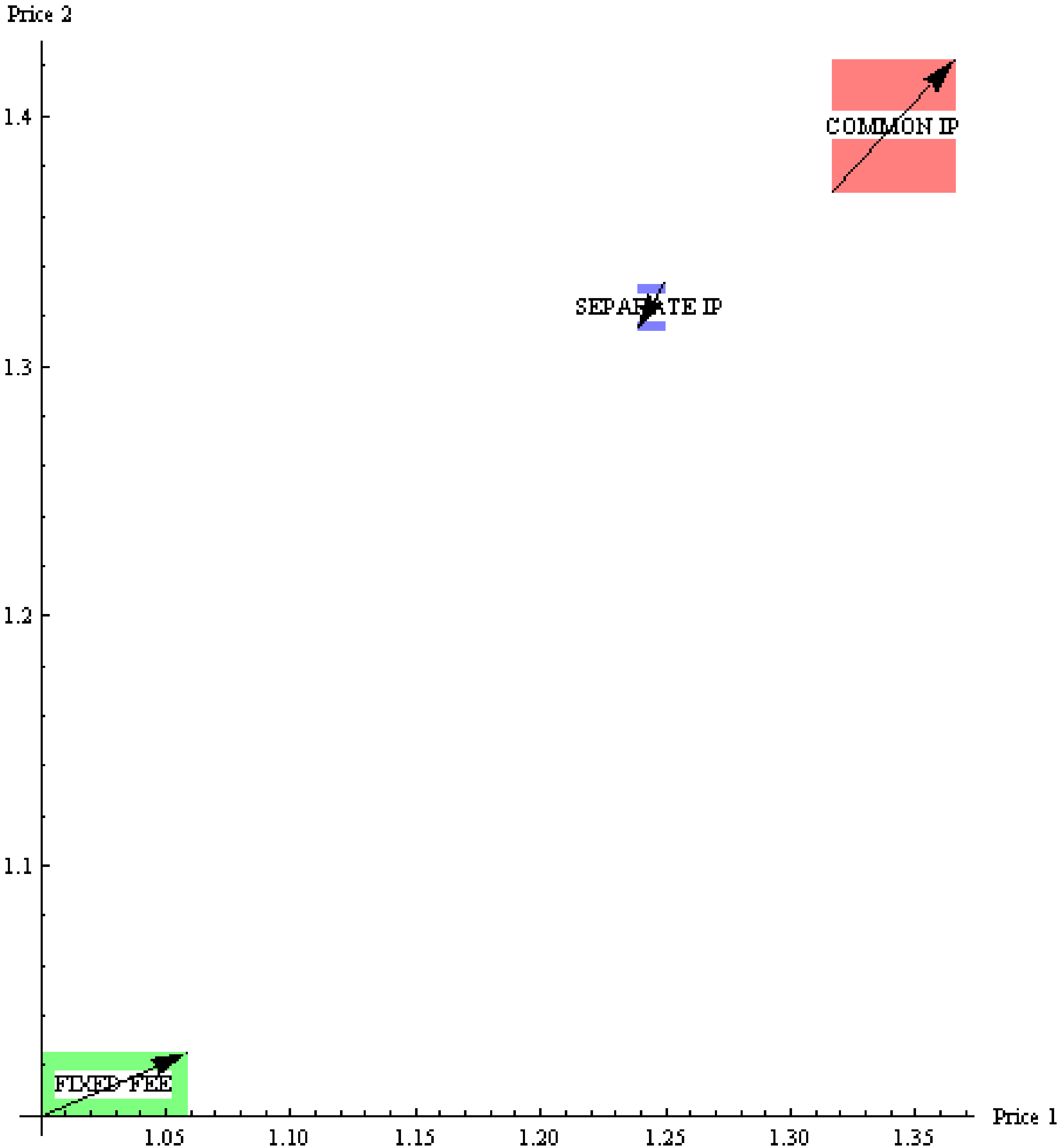
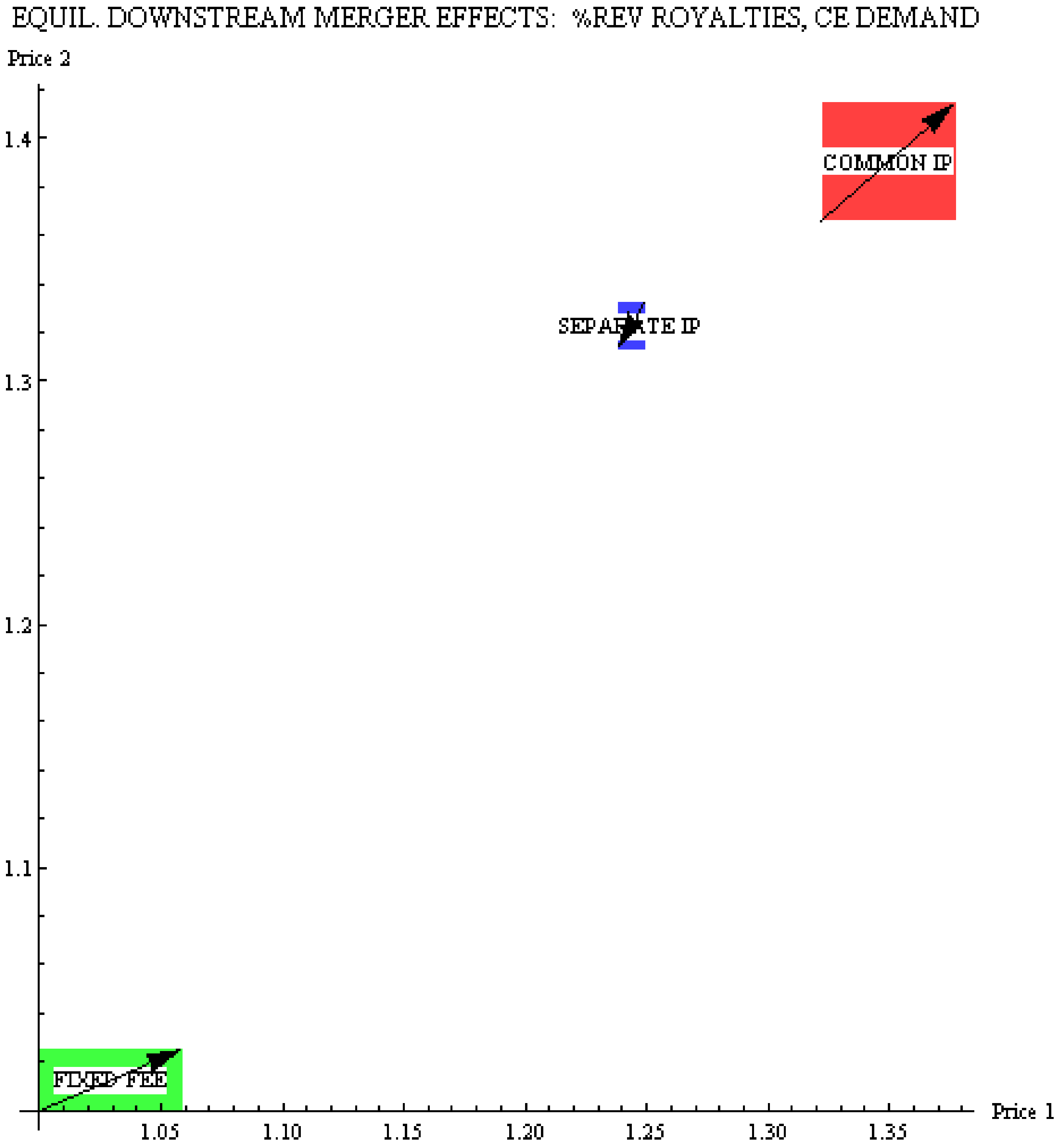
1.20
1.25
1.30
1.35
COMMON IP
SEPARATE IP
FIXED FEE

Observations

- DOWNSTREAM PRE MERGER PRICES:
  - Lowest for “no IP”
  - Higher for separate IP (adding double mark up)
  - Highest for common IP (no upstream competition)
  - INTUITION: more upstream competition is better
- DOWNSTREAM MERGER PRICE INCREASE:
  - Biggest for no IP
  - Smaller for common IP
    - Royalty rates move *UP* post merger
    - Derived upstream aggregate demand becomes *LESS* elastic
  - Smallest for separate IP
    - Royalty rates move *DOWN* post merger
    - Derived upstream individual demand becomes *MORE* elastic

EQUIL. DOWNSTREAM MERGER EFFECTS: PER UNIT ROYALTIES, CE DEMAND




EQUIL. DOWNSTREAM MERGER EFFECTS: %REV ROYALTIES, CE DEMAND
Price 2
1.4
1.3
1.2
1.1
COMMON IP
SEPARATE IP
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Constant Elasticity (CE) vs. Logit Demand

- Logit demand becomes more elastic as price increases.
  - Much bigger price scale (40% vs. 25%)
- Pass-through rates: CE > 1; logit < 1.
  - Royalty rate effects bigger with CE
    - Attenuates or amplifies effects of previous section
    - NEGATIVE merger effect

Remarks

- Vertical matters in horizontal mergers
  - But small upstream IP royalties probably determined by *ex-ante* negotiation.
  - Results more applicable to manufacturer-retail relationship or to franchisor/franchisee relationship
- Will vertical uncertainty “infect” horizontal policy consensus?