

Consumer and Competitive Effects of Obscure Pricing

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FTC drip pricing economics workshop

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Disclaimer

- These are my views and analysis, and do not purport to represent the Commission or any Commissioner

What I'll Offer

- Two simple models to help explore economic effects of drip (or non-transparent) pricing
- Pass-through and net consumer impact
 - Analyze single-firm model
 - Akin to “vertical” aftermarket issues
- Impact on competition between firms
 - Effect on firm-specific demand elasticity
 - Akin to unilateral effects in “horizontal” merger

Framework

- Firm sets “upfront” price p
- Firm may add (undisclosed) r, h
 - r is gain to firm; “direct” consumer harm is h
 - Allows for non-price and deadweight loss
- Consumer sees p , but sees h only partially:
 - Upfront, consumer acts as if $p + th$
 - t is responsiveness of beliefs/demand to h
 - Better: responsiveness to *variation* in h

Given (r, h)

- Full cost to consumer is $p + h = p + th + (1 - t)h$
- $p = \operatorname{argmax} (p - c + r)D(p + th)$
 - $p + th = \operatorname{argmax} (q - th - c + r)D(q)$
- Compare counterfactual with $r = 0 = h$
 - Then p_0 is $\operatorname{argmax} (p - c)D(p)$
- Firm-specific (cost) pass-through rate k
- Net consumer harm from (h, r) is $(1 - t)h + (p - p_0)$
 $(1 - t)h + k(th - r)$
- Alternatively $h - kr - (1 - k)th$
 - Two forces decreasing upfront p when r and $h > 0$

How Bad? How Disciplined?

- Net consumer harm $(1 - t)h + k(th - r)$
- Impact on firm's profit is $r - th$
 - Envelope theorem
- If t near 1 then net harm near $k(h - r)$
 - Small if (r, h) profitable (so r at least th)
- If t small then net harm $h - kr$ and incentive to maximize r almost independent of h
 - But pure gouging with high pass-through not very harmful
- Higher t
 - reduces consumer harm for given (r, h) if $k < 1$
 - makes inefficient $(h > r > 0)$ choices less profitable

Summary of “vertical” analysis

- With $t=1$, only efficient policies ($h < r$) profitable, and consumer benefits from them
- If t small, some inefficient policies become profitable, and net consumer harm reflects pass-through in two ways
 - Quasi-reduction in c down to $c - r$
 - k measures pass-through of such cost changes
 - Downward shift in up-front demand curve, by th
 - $(1 - k)$ calibrates price effect of such a shift

Horizontal Analysis

- “If consumer can’t see full cost up-front, can’t comparison shop as well;
- “Hence weaker competitive pressure.”
- When does $t < 1$ reduce cross-elasticity with respect to full consumer cost $(p + h)$?

Assume Cross-Elasticity is Up-Front

- How do consumer expectations of $(p + h)$ vary when its true value varies across firms?
- I suspect many answers are possible

Models with Neutrality

- In some models, subgame perfection implies same h for all...
 - e.g. simplest switching-cost models
- Then simple rational expectations make either p or $(p + th)$ a sufficient statistic for $(p + h)$
- If consumers shop that way, t doesn't affect cross-elasticity

Variation just in h ?

- Explore this as polar opposite case
- If my p is same as rival's but h is lower, consumers see t times the difference
- Consumers only “see” a fraction t of a 1% cut in total price ($p + h$)
- So if residual demand elasticity for firm would be e with transparency, it is now te

Consequences

- If elasticity e replaced by te (with $t < 1$), price will rise
- As in unilateral-effect merger calculations
- Gross markup rises by factor $(e - 1)/(te - 1)$
- More harm if t small or if e not far above $(1/t)$

Regression toward baseline

- A less fleshed-out but seemingly robust idea:
- When consumer sees low p , he might think:
 - Probably h will be as usual, but I'll take the low p
 - If p is low, probably h will be low too
 - If firm isn't making money on p , it will gouge on h
- What affects these inferences?
- What patterns allow a genuine price-cutter to attract as much extra demand as it “should”?
- What patterns allow a ripoff to “hide”?

Conclusion

- Attempting to dig deeper than generic concern about non-transparency
- Does pass-through substantially undo harm?
 - Depends on t and on k
 - Depends on h versus r
 - Depends in two ways: *given* (r, h) , and *choice*
- (When) does non-transparency mute cross-elasticity of demand?