Naked Exclusion by a Dominant Supplier

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Motivation (1)

- “Naked Exclusion” – Exclusion for no other reason than to exclude
  - For example, not conditioned on promotional expenditures or other investments
- Dominant Supplier – “Must have” supplier
  - Large part of the market has no good alternative to the dominant supplier
  - Dominance necessary condition to exclude
Motivation (2)

- How could exclusives cause harm? Why would buyers accept an agreement if it were harmful?
  - End user models – coordination failure
    - Aghion & Bolton (1987)
  - Intermediate goods models
    - Competing firms pass harm through to end user customers
      - Simpson & Wickelgren (2007 AER)
      - Fumagalli & Motta (2006 AER)
      - Abito and Wright (2008 IJIO)
      - Wright (2009 AER)
Motivation (3)

My Model

- Explicitly Model Dominant Supplier
- Eliminate the “First Mover Advantage”
  - All suppliers can offer exclusive contracts
- Eliminate “Entrant must spend F”
- Model 100% exclusion & market share discounts
- How big do payments have to be?
- Develop a more robust “price/cost test”
Results from 50,000 feet

- Two customer segments
  - Large segment prefers the dominant supplier’s input a lot
  - Small segment prefers small rival supplier’s input a little

- Downstream firms can sell goods with both suppliers’ inputs
  - Dominant supplier pays downstream firm to be exclusive.
    - Rival too small to sign all firms to exclusive contracts so faces competition from dominant firm in the small segment
    - Dominant supplier pays each firm the value of these profits for exclusion and so faces no competition
    - Dominant supplier can therefore set monopoly price for input
    - Profitable if monopoly profits > the payments to the producers
    - Monopoly profits finance payments
Model (1)

- Differentiated Input; Two Input Suppliers
  - Dominant (D) sells \( d \) to downstream producers
  - Small Rival (R) sells \( r \) to downstream producers

- \( m \) downstream Producers
  - 1 unit of input \( \rightarrow \) 1 unit final good (MC=0)
  - Undifferentiated except for the input
  - Bertrand price competition

- End users
  - Most will pay much more for \( d \)-based good
  - A few will pay a little more for \( r \)-based good
Model (2)

The Final Good Market

- \( w_{cr} = \text{WTP} - r\)-based units
  Contestable segment
- \( w_d = \text{WTP} - d\)-based units
- \( w_{nr} = \text{WTP} - r\)-based units
  Non-contestable segment
- \( q_c \) contestable segment
- \( q_n \) non-contestable segment
- Price discrimination
- \( t \) denotes transfer price
- \( p \) denotes final good price.
Model (3)

Values

\( B = d's \) value to contestable seg

\( A = r's \) extra value to con seg.

\( C = r's \) value in noncon seg

\( E = d's \) extra value in non con seg
Model (4) - Benchmark

Bertrand outcome in each segment

Dominant earns $E$

Rival earns $A$

\[ p_{rc} = w_{cr} - w_d \]

\[ p_{dn} = w_d - w_{nr} \]
Model (5)

The Game

- Both suppliers offer pmnt. \( \mathcal{P} \)
- \( m \) producers accept or reject
- Suppliers set prices, \( t_{ij} \)
- Producers can breach
- Supplier set new \( \downarrow t \)'s if breach
- Producers set prices, \( p \)
- Producers and supplier discriminate across segments
- All players observe all decisions
Model (6) - Exclusivity

Equilibrium With Exclusives

If $mA < B+C$

$(A+B+C)/m < E$

$D$ signs all producers to exclusives (pays $A$)

$D$ sets $t_{dc} = t_{dn} = w_d$

End users pay $w_d$

$R$ sets $t_r = 0$ to one producer
Model (7) - Exclusivity

\( mA < B + C \)

Excluding \( R \) makes \( D \) a monopolist. He earns \( B + C \) more than he would in competition.

\( D \) pays \( A \) to each producer for a total of \( mA \)

If \( mA < B + C \) it’s profitable to pay all \( m \) producers \( A \) each...
Model (8) - Exclusivity

\[(A+B+C)/m < E\]

*R cannot sign all producers*

*R can pay \((A+B+C)/m\) to each producer for exclusivity*

If *R* signs all producers, *D* looses *E*. *D* could pay one producer *E*-\(\varepsilon\) Not to be exclusive.

*R* faces competition from *D*.
Model (9) - Exclusivity

\[(A+B+C)/m < E\]

\(R\) cannot sign one producer

In competition the most \(R\)
Could pay one producer to Breach and sell \(r\) is \(A\).

But each producer already gets \(A\), so no benefit in deviating
Model (10) - Exclusivity

If a producer breaches:

\[ D \text{ sets } t_{djc} = 0 \]

*r-based unit price* = \( w_{cr} - w_d \)

Producers earn 0

Again breach causes Bertrand
Model (13) - Market Share Discount

$q_z$ end users $WTP \ w_z$

$m(w_z - w_d) > w_d$ and

$mA < B + C$ creates

incentive for MS discount

Cheaper to concede $q_z$ units

rather than compensate

producers for not selling

those $r$-based units
Model (14) - Market Share Discount

Equilibrium

*D offers A to producers*

*Producers accept*

*D sets* \( t_{dz} = 0; \ t_{d-z} = w_d \)

*R sets* \( t_{rz} = w_z - w_d; \ t_{r-z} = 0 \)

If breach

\( t_{dc} = 0; \ t_{dn} = w_d - w_{cn} \)
Naïve price-cost test -

$mA < B$ wrongly concludes anticompetitive payments are procompetitive.

Naïve Test:

Effective Discount:

Divide $P$ by $q_j$.

Effective Price:

$t$ minus effective discount.
Model (16) - Price-Cost Test

\( mA < B \rightarrow A < w_d q_c / m. \)

Naïve Test
Take \( A \)
Overlay in \( w_d q_c / m \)
\( G \) is positive
\( G / (q_c / m) \) is effective price

Naïve test says no harm but
exclusion leads to monopoly prices
Model (17) - Price-Cost Test

- Sophisticated price-cost test
  - D's transfer price
    - effective discount
    + extra willingness to pay
    - reduction in competitive price
      compare to D's marginal cost

\[ W_d - \frac{A}{qc/m} + \frac{(A)}{qc} - (W_{cr} - W_d) = (1-m)\frac{A}{qc} + W_{cr} \]

- This is not a profit sacrifice test
- More like an equivalent profit test
Model (20) - Punishment Conjecture

Need for a punishment model

Dominant supplier has existing relationship with producer that is threatened if producer does not accept exclusivity.

Could threaten A profits from “other markets” to enforce exclusivity.
Differentiated Producers

- Differentiation downstream
  - One producer can’t serve entire Market.
  - Creates quasi-rents for each producer.

- Adds a potential for “Punishment”
  - Producer earns quasi-rents in non-contested segment.
  - D threatens to eliminate quasi-rents by raising prices to those who breach exclusivity.
  - Subgame perfection obtained by D charging less than monopoly price. Implementing price increase is profitable.
  - Welfare loss from exclusion weighed against welfare gain from initial lower prices.