Buyer Power from Joint Listing Decision

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Introduction

- Retailers have increasingly sought to join forces so as to enhance their buyer power vis-à-vis suppliers.
- Examples:
  Grocery industry: Leclerc and Système U, buying alliance called Lucie, 1999 (France); Kesko and Tuko, 1996 (Finland); Independent Grocers Association (US); ...
  Other retailing industry: Pharmaceutical retailing industry in France (Astera, Giphar and Giropharm); ...
- Benefits of collective bargaining
  - Economies of scale
  - Joint (de-)listing decision?

Objective of the paper

- Explore when and how joint listing decision can affect bargaining position of buyer group, and whether larger buyer group benefits more of such joint listing decision.

- Implications of our analysis for upstream investment incentives

Literature (1/3)

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  - Integration backwards by paying a fixed cost, Katz (1987),
  - Changes in the values of retailers' or suppliers' alternatives, Chipty and Snyder (1999), Inderst and Wey (2007),
  - Possibility for a large buyer to reduce the number of suppliers which it deals with, Inderst and Shaffer (2007), Dana (2009).
- These approaches focus on "pure" buyer power, in the sense that group members only interact on the buying side.

Literature (2/3)

- Different approach: "Full mergers", in which the downstream firms not only join forces as buyers, but also eliminate competition between them as sellers, Dobson and Waterson (1997), von Ungern-Sternberg (1996).

- By contrast, we focus in this paper on the bargaining power that buyer groups confer to firms that are and remain competitors in the same downstream market.

Literature (3/3)

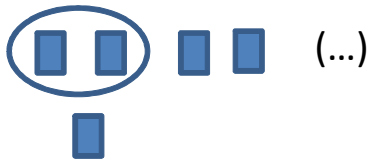
Upstream

Downstream

« Pure» buyer power

Upstream

Downstream



« Full merger »

Upstream

Downstream

Our paper: « buyer group »

The model (1/2)

- Consider two vertically related markets:

In the upstream market, a leader U (c), faces a competitive fringe $\widehat{U}$ $(\widehat{c})$, $\widehat{c} > c$.

In the downstream market, n competitors, $D_1, \ldots, D_n$, transform the intermediate product into an homogenous final good, on a one-to-one basis and at no additional cost.

- The inverse demand for the final good satisfies the standard regularity conditions.

The model (2/2)

- We will assume that wholesale contracts are secret and consider the following competition game (Benchmark):
  - Step 1: (a) U secretly offers each D_i a tariff $T_i(.)$; (b) Each D_i secretly accepts or rejects U's offer.

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  - Step 1: (a) U secretly offers each D_i a tariff $T_i(.)$; (b) Each D_i secretly accepts or rejects U's offer.
  - Step 2: Each D_i secretly orders a quantity $\hat{q}_i$ from the fringe and, if it has accepted $T_i(.)$, a quantity q_i from U; the downstream firms then transform the intermediate product into final good, observe the total output Q and sell their own output at price $P(Q)$.

Results

- Under passive conjectures, the above competition game has a unique subgame perfect equilibrium outcome, in which:

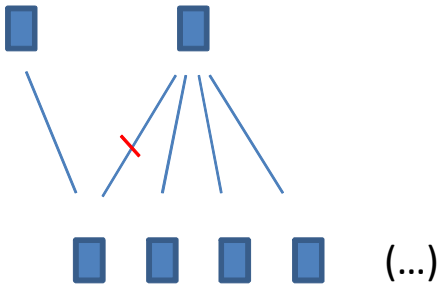
(i) each D_i sells the competitive quantity q^C, which it buys from U;
(ii) each D_i earns the profit it could obtain by turning instead to the competitive fringe:

$$\hat{\pi} \equiv \max_{q \geq 0} \pi \left(q; (n-1) q^C, \hat{c} \right).$$

- See Hart and Tirole (1990).

Upstream

Alternative supplier



Downstream

Buyer group (1/2)

We now suppose that, in order to join forces in their negotiation with U, $s \leq n$ downstream firms form a buyer group G, which will select suppliers on behalf of its members.
We adapt the first step of the competition game as follows:

- Step 1a as before; in particular, each group member only observes the offer it receives, not the offers made to the other members.
- Step 1b: Each group member recommends whether to accept or reject U's offers to the group G; these offers are all accepted if members unanimously recommend doing so, and all rejected otherwise. The other downstream firms decide individually whether to accept the offer they received. Acceptance decisions are again private information: members of the buyer group know whether U's offers have been accepted by the group, but do not observe non-members' decisions, and these firms only observe their own decisions.

Buyer group (2/2)

Proposition

There exists an equilibrium in which U supplies all firms. Furthermore, under passive conjectures, in any such equilibrium:

(i) all firms sell the competitive quantity q^C*;*

(ii) each non-member earns $\hat{\pi}^1 = \hat{\pi}$*, whereas each group member earns* $\hat{\pi}^s \equiv \pi^s\left((n-s)\,q^C, \hat{c}\right)$.

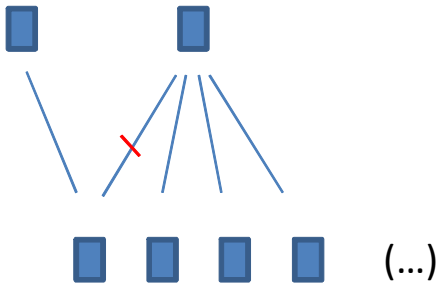
Proposition

$\hat{\pi} = \hat{\pi}^1 \leq \hat{\pi}^2 \leq ... \leq \hat{\pi}^n < \pi^C$*; furthermore, for* $s > 1$*,* $\hat{\pi}^s > \hat{\pi}^{s-1}$ *whenever* $\hat{\pi}^s > 0$ *(i.e., whenever* $P\left((n-s)\,q^C\right) > \hat{c}$*).*

- Key intuition: by joining forces in their negotiation with the leading supplier, group members enhance their outside option;
  while turning to the less efficient remain costly, it becomes less painful when the other members have to do the same

Upstream

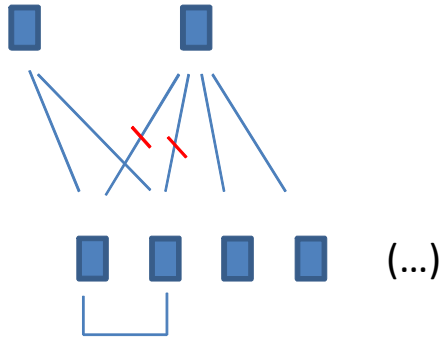
Alternative supplier



Downstream

Upstream

Alternative supplier



Downstream

Discussion and extensions (1/3)

- In the absence of any restriction on the size of the group, we would expect all firms to join the buyer group.

Joining a buyer group not only benefits the additional member, but also benefits the existing group members.

- The analysis applies as well to situations where several (separate) groups are formed.

Prospective members benefit more from joining a larger group and any existing group member benefits as well from switching to a larger group.

Discussion and extensions (2/3)

- The analysis applies as well to downstream competitors that are differentiated. In this case, closer competitors are more likely to join forces in their negotiations with the leading supplier.
  While turning to the less efficient supplier remains costly, it is less painful when the other members who have to do the same are the ones that offer the closest substitutes.
- Cournot competition / Bertrand competition with differentiated products

Similar insights apply.

Discussion and extensions (3/3)

- Making all offers observed by all members (but not by outsiders) would not remove the benefit of joining a group (enhancing members' outside options)
  but would generate an additional strategic effet: commitment effect (see Hart and Tirole, 1990).
  - Consumer prices increase.
  - The impact of this additional effect on group members depends on the nature of downstream competition
    Strategic complements: outsiders "softer"
    reinforcing the incentives to join a group
    Strategic substitutes: outsiders "tougher"
    the dynamics of group formation are less clear-cut

Upstream investment incentives (1/3)

- An often-voiced concern raised by buyer power relates to its impact on suppliers' incentives to invest and innovate
- To explore this issue:

We add here an additional stage (step 0) at the beginning of the above competition game, in which the dominant supplier, U, can invest F in order to reduce its marginal cost c, from some initial level $\overline{c} > 0$ to a lower level $\underline{c} \in [0, \overline{c}[$.

Upstream investment incentives (2/3)

Proposition

$\Delta_U^s \geq \Delta_I$ for any $\overline{c} > \underline{c} \geq 0$, any $\hat{c} \geq 0$ and any $s \in \{1, ..., n\}$; more precisely:

(i) $\Delta_U^s = \Delta_I$ if $\hat{c} < \underline{c}$, $\hat{c} \geq P\left((n-s)\, q^C(\overline{c})\right)$, or $s = n$;

(ii) $\Delta_U^s > \Delta_I$ if instead $s < n$ and $\underline{c} < \hat{c} < P\left((n-s)\, q^C(\overline{c})\right)$.

- (ii) Excessive incentives to invest, compared with what would maximize industry profits
- Key intuition: retailers' outside option, $\widehat{\pi}^s \equiv \pi^s\left((n-s)\, q^C, \widehat{c}\right)$

Upstream investment incentives (3/3)

Proposition

For any $\overline{c} > \underline{c} \geq 0$ and any $s < n$: (1) $\Delta_U^{s+1} = \Delta_U^s$ if $\hat{c} \leq \underline{c}$ or $\hat{c} \geq P\left(q^C\left(\overline{c}\right)\right)$; (2) if instead $\underline{c} < \hat{c} < P\left(q^C\left(\overline{c}\right)\right)$:
(i) $\Delta_U^{s+1} < \Delta_U^s$ for s large enough;
(ii) however, if $\hat{c} \geq P\left(\left(n-1\right)q^C\left(\overline{c}\right)\right)$, then $\Delta_U^{s+1} \geq \Delta_U^s$ for s not too large, with at least one strict inequality in that range.

- Increasing incentives to invest; then, decreasing incentives to invest
- Key intuition: setting-up a large enough group, tends to make retailers' outside option less sensitive to the upstream leader's cost.

Conclusion (1/2)

To conclude

- Mechanism: Transforming individual listing decisions into a joint listing decision makes delisting less harmful, which in turn improves group members' bargaining position compared to outsiders.
- Secret contracting and implications: contracts are bilaterally efficient, larger buyer groups do not lead to lower prices for consumers; no impact on other purchasers.
  Making offers observed by all group members increases consumers' price.

Conclusion (2/2)

- Investment decisions: enlarging a buyer group may foster upstream incentives to invest if the group is not too large, and tend instead to counterbalance overinvestment biases, and reduces investment incentives, when the group is already quite large.
- The analysis applies as well to hybrid buyer groups, where some members are on separate markets while others compete in the same market; thus, prospective members benefit more from joining a group in which the number of direct competitors is the largest.

(Similarly, closest competitors)