Module 10: Procompetitive Justifications for Exclusive Contracts

Market Organization & Public Policy (Ec 731)  ·  George Georgiadis

○ So far, we have studied the use of exclusive contracts for anticompetitive purposes.

○ Can exclusive contracts have any procompetitive motives?

– Marvel (JLE, 1982): Exclusive contracts can protect relationship-specific investments (i.e., avoid hold-up).

○ An example:

– When a manufacturer advertises and brings customers into a retail store, the retailer might switch those customers to other products that offer him a higher margin.

– Anticipating this, the manufacturer has weak incentives to advertise.

– An exclusive contract restores these incentives.

○ Other examples:

1. GM and Fisher’s 1919 exclusive contract. (Klein, JLEO, 1988)

   – GM agreed to buy only Fisher autobodies.

   – Purpose was to protect Fisher’s investments in specialized equipment.

2. United Shoe Machinery Corporation’s contracts with shoe manufacturers (Masten and Snyder, JLE, 1993)

   – US 1922 Antitrust case: United argue it needed to protect its investments in training shoe manufacturers how to efficiently organize their production processes.

   – W/o an exclusive contract, they could use this knowledge with other firms’ shoe machines, thus reducing United’s incentives to invest in training.
Model (Segal and Whinston, RAND, 2000)

- A model of exclusive contracting in the presence of noncontractible investments.

- A buyer \((B)\) and a seller \((S)\) who may contract prior to making noncontractible investments.

- There is also an external source \((E)\) from where \(B\) can procure the product instead.

Timing:

1. \(B\) and \(S\) can sign a contract that specifies exclusivity (i.e., \(B\) must buy from \(S\)).

2. \(B\) and \(S\) make noncontractible investments that determine \(B\)’s value from trade with both \(S\) and \(E\), as well as \(S\)’s cost.

   - Assume values and cost are observable by both parties.

3. \(B\) and \(S\) 50-50 Nash-bargain over terms trade.

   - If they don’t reach an agreement, \(B\) can buy from \(E\) provided he is not bound to \(S\) by an exclusive contract.

Setup (simplified):

- \(B\) needs at most one unit of the product.
  - Values \(S\)’s product at \(v\), and \(E\)’s product at \(v_E\).

- If \(S\) invests \(i_s\), then his unit cost is \(c(i_S)\), where \(c' < 0\).

- The external source has unit cost \(c_E\), where \(v > c_E > c(i_S)\) for all \(i_S\).

  - So it is efficient for \(B\) to always buy from \(S\).
An Irrelevance Result

- Efficient investment solves
  \[
  \max_{i_S} \{ [v - c(i_S)] - i_S \}
  \]
  so it satisfies \(c'(i_S^*) = -1\).

- What is the effect of an exclusive contract?
  - Let \(e = 1\) denote an exclusive contract, and \(e = 0\) indicate no exclusivity.
  - Note that bargaining always results in \(B\) and \(S\) agreeing to trade.
  - \(S\)'s payoff is
    \[
    u_S(i_S|e) = \begin{cases} 
      d_S(i_S|e) + \frac{1}{2} [v - c(i_S) - d_B(i_S|e) - d_S(i_S|e)] - i_S \\
      \frac{1}{2} [v - c(i_S)] + \frac{1}{2} [d_S(i_S|e) - d_B(i_S|e)] - i_S
    \end{cases}
    \]
    where \(d_S(i_S|e)\) and \(d_B(i_S|e)\) are \(S\)'s and \(B\)'s disagreement payoffs.
    - These are:
      \[
      d_S(i_S|e) = 0
      \]
      \[
      d_B(i_S|e) = \begin{cases} 
        v_E - c_E & \text{if } e = 0 \\
        0 & \text{if } e = 1
      \end{cases}
      \]
      - So an exclusive contract increases \(S\)'s payoff and decreases \(B\)'s payoff.
        * Intuitively, \(B\) is in a worse bargaining position with an exclusive contract.
  - But does it increase \(S\)'s incentives to invest?
    * No, \(i_S^*\) is independent of \(e\)!

- Takeaway: Exclusivity is irrelevant for both investment and efficiency.
  - Because investment only affects the value of trade between \(B\) and \(S\).
  - For exclusivity to matter, investments must affect the value of trade between \(B\) and \(E\), and hence disagreement payoffs.

- Let us return to the examples from earlier:
1. GM-Fisher relationship: Investment is purely internal.
   - Advertising and training investments increase not only the value of trade between \( B \) and \( S \), but also the value of trade between \( B \) and \( E \).

   ○ Extend the model to incorporate (i) seller investments that also affect external value, and (ii) buyer investments.

**Seller Investments that also affect External Value**

○ Let \( v(i_S) \) and \( v_E(i_S) \) denote \( B \)’s values of trade with \( S \) and \( E \), respectively, and assume that \( v' > 0 \) and \( v'_E \leq 0 \); i.e., internal and external investments may be complements or substitutes.

   ○ \( S \)’s payoff is

\[
  u_S(i_S|e) = \frac{1}{2} [v(i_S) - c(i_S)] - i_S - \frac{1}{2} \begin{cases} v_E(i_S) - c_E & \text{if } e = 0 \\ 0 & \text{if } e = 1 \end{cases}
\]

○ If \( e = 0 \), then \( i_0^S \) satisfies \( v'(i_0^S) - c'(i_0^S) - v'_E(i_1^S) = 2 \).

○ If \( e = 1 \), then \( i_1^S \) satisfies \( v'(i_1^S) - c'(i_1^S) = 2 \).

○ Which case results in higher investment level? (Assume \( v'' - c'' > 0 \).)

   - If \( v'_E > 0 \) (i.e., investments are complements), then \( i_1^S > i_0^S \) so that an exclusive contract results in higher effort.

   - If instead \( v'_E < 0 \) (i.e., investments are substitutes), then an exclusive contract results in lower effort.

**Buyer Investments**

○ Now suppose that \( B \) is the one to invest instead of \( S \).

○ Buyer’s valuation is \( v(i_B) \) or \( v_E(i_B) \) when he trades with \( S \) or \( E \), respectively.

   - Assume \( v' > 0 \), and \( v'_E \leq 0 \). (internal and external investments may be complements or substitutes)
○ $B$’s payoff is

$$u_B (i_B | e) = \frac{1}{2} [v (i_B) - c (i_B)] - i_B + \frac{1}{2} \begin{cases} v_E (i_B) - c_E & \text{if } e = 0 \\ 0 & \text{if } e = 1 \end{cases}$$

○ If $e = 0$, then $i_B^0$ satisfies $v' (i_B^0) - c' (i_B^0) = 2$

○ If $e = 1$, then $i_B^1$ satisfies $v' (i_B^1) - c' (i_B^1) + v'_E (i_B^1) = 2$

○ Which case results in higher investment level? (Assume $v'' - c'' > 0$.)

- If investments are complements ($v'_E > 0$), then $i_B^1 < i_B^0$.
- If investments are substitutes ($v'_E < 0$), then $i_B^1 > i_B^0$.

○ So an exclusive contract lowers the level of $B$’s investment when investments are complements, while it increases it when they are substitutes.

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<tr>
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**Welfare Effects**

○ When do these effects of exclusivity on investments raise welfare?

○ Assuming $E$ is competitive, this is equivalent to asking whether $B$ and $S$’s joint payoff is higher or lower under an exclusive contract.

- In general, an exclusive contract that increases investment will increase (decrease) welfare when the investment would be underprovided (overprovided) without the exclusive.

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○ Useful for evaluating firms’ procompetitive justifications in antitrust investigations.
References

