Phoenix Center Symposium, Part II

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Chief Economist
Simple Setup

Seller

Unit Cost = $2

Buyer A

WTP = $3

Buyer B

WTP = $5

Each consumer wants only one unit.
Uniform Price

Price regulation of monopoly aims to maximize Total Surplus by lowering price to increase quantity sold.

CS: Consumer Surplus. TS: Total Surplus (Profit + CS).
Deadweight Loss of Monopoly

Monopoly Price = $P_M$

Competitive Price = $P_C$

Quantity

$Q_M$

$Q_C$

Deadweight Loss of Monopoly
“OMB emphasizes that careful consideration of costs and benefits is best understood as a way of ensuring that regulations will improve social welfare ...”

Office of Management and Budget (June 2011).
Buyer-Specific Pricing

$P_A = $3, P_B = $5$

<table>
<thead>
<tr>
<th>Price</th>
<th>Qty</th>
<th>Profit</th>
<th>CS</th>
<th>TS</th>
</tr>
</thead>
<tbody>
<tr>
<td>$2</td>
<td>2</td>
<td>0</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>$5</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>$3/$5</td>
<td>2</td>
<td>4</td>
<td>0</td>
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</table>

Monopoly is not the problem; uniform pricing is the problem.
Buyer-specific pricing requires that customers be identified and sorted into groups, thereby preventing arbitrage.

Put another way, buyers (or groups of buyers) must be delineated into a unique “market.”
## Buyer-Specific Markets

<table>
<thead>
<tr>
<th>Seller</th>
<th>Buyer A</th>
<th>Feasible Prices</th>
<th>Sym. Nash</th>
<th>Total Surplus</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Minimum $2</td>
<td>$2.50</td>
<td>$1</td>
</tr>
<tr>
<td>Cost = $2</td>
<td>WTP = $3</td>
<td>Maximum $3</td>
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# Role for Regulation

Total Surplus is fixed at any price between Minimum and Maximum Willingness to pay. Price merely divides the surplus. Regulation can be costly, however:

\[
\begin{align*}
P_{\text{REG}} < 2, & \text{ no deal, no surplus (or below cost)} \\
P_{\text{REG}} > 5, & \text{ no deal, no surplus}
\end{align*}
\]

## Feasible Prices

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Sym. Nash = $3.50
Total Surplus = $3
Special Access Services

- **Geographic Market:**
  - “individual customer location (AdHoc)”
  - “each customer location (AdHoc)”
  - “customer-by-customer location (FCC)”
  - “particular customer’s location (FCC)”
  - “specific end user’s location (FCC)”

- **How many buyers are there at a “particular customer’s location”**?
  - In many cases, only one (e.g., cell tower, point-of-presence)
Special Access Services

• If one buyer, then even with one seller (bilateral monopoly) regulation cannot increase social welfare.

• Regulation merely involves a transfer of rents (price change), or forces non-economic transactions or precludes economic transactions.
No Role for Regulation

Total Surplus is fixed at any price between Minimum and Maximum Willingness to pay. Price merely divides the surplus. Regulation can be costly, however:

\[ P_{\text{REG}} < 2, \text{ no deal, no surplus (or below cost)} \]
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Feasible Prices

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Sym. Nash = $3.50
Total Surplus = $3
Special Access Services

• If one buyer, then even with one seller (bilateral monopoly) regulation may not increase social welfare, but simply involve a transfer of rents (a price change).

• Regulation may also force non-economic transactions or preclude economic transactions (too much uniformity).

• How social welfare is defined may be critical (what is the regulator maximizing?).
  – Intermediate markets and flow through
  – Fixed costs?