Phoenix Center’s Annual Symposium

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UNIVERSITY CLUB
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War Damn Eagle
Prices and Competition: Homogeneous (Identical) Products

- Collusion/Cartel
- Cournot Competition
- Bertrand Competition
Bertrand with Capacity Constraints

- **Cournot Competition**
  - Firms choose quantities, then the market price is such that all quantities are sold

- **Bertrand Competition**
  - Firms choose prices and sell what quantities are demanded

- **Bertrand Competition with Capacity Constraint**
  - The capacity constraint is akin to choosing quantity, so Bertrand with capacity constraint looks more like a Cournot outcome
Bertrand with Differentiated Products

Range Of Prices

$P_M$

MC

$1 \quad 2 \quad 3 \quad 4 \quad \ldots \quad N$

Bertrand – No Differentiation

Bertrand – High Differentiation
Marginal Cost Pricing in Telecom

Clement Krouse, in the THEORY OF INDUSTRIAL ECONOMICS: In a homogeneous goods industry the presence of increasing returns in production creates difficulties in using perfect competition as a benchmark for social efficiency. Prices set equal to marginal cost in this case will lead to losses ...
Phoenix, AZ  Forbearance Standard: Market Power

- “Forbearance [is] based on whether the provider no longer has market power (¶38)”
- “competitive conditions might justify forbearance from UNE obligations if the petitioner could demonstrate that it lacks market power (¶94)”
- Market power = “the power to control price ... resulting in prices above competitive levels.” (¶¶5, 30)

*What is the “competitive level?”*
What is the Competitive Level?

- “... under Bertrand competition, in which each firm maximizes its profits by choosing the price at which it will sell its output, duopoly will yield a competitive result under certain assumptions (ft. 91).”
- “... under some models and in some situations, duopoly can provide sufficient competition. In particular, under the Bertrand model, duopoly can result in a competitive equilibrium under the assumption of perfectly homogeneous products and no capacity constraints even in the short run (¶86).”
What is the Competitive Level?

Bertrand with Homogeneous Products, so

Price = Marginal Cost
Have I Over-stated the Case?

- **Rebuttal:** *Ford, you are crazy, what the FCC meant was that marginal cost pricing is a **Sufficient** but not **Necessary** condition. MC is clearly acceptable, but a price other than MC may be acceptable.*

- **Response:** I am not crazy, the Order says,
  - “As long as the firms have some degree of product differentiation or have capacity constraints, or compete in quantities as in the **Cournot Model under any assumptions**, then theories of oligopoly behavior predict that equilibrium prices will exceed competitive levels (ft. 89).”
Prices and Competition:
Bertrand with Differentiated Products

Phoenix Order Rejects
ALL OTHER PRICES

Bertrand –
High Differentiation

Range
Of
Prices

Bertrand –
No Differentiation

$P_M$

MC

1 2 3 4 ... N
Rebuttal: *Ford, you are crazy, the FCC discussion relates only to the rejection of duopoly!*

Reply: I am not crazy, the Order says,
- “supracompetitive prices may be a concern where there is a duopoly or a market dominated by a few firms (¶29)”
- “economic theory holds that firms operating in a market with two or a few firms (i.e., an oligopoly) are likely to recognize their mutual interdependence and, unless certain conditions are met, in many cases may engage in strategic behavior, resulting in prices above competitive levels (¶30)”

The rebuttal implies MC pricing is required for 2 firms, but a cartel is OK for 3 firms.
The Phoenix Forbearance Order establishes a Marginal Cost Pricing Standard for forbearance petitions.

This contradicts telecommunications economics at the most rudimentary level!
... it appears that this analysis may set too high a bar – a test so stringent that no requesting carrier will ever satisfy it. I question whether, in reality, today’s action eliminates the opportunity for achieving forbearance, which was expressly provided to carriers by Congress.

Statement of Commissioner Robert McDowell
Other Implications of the Order

- The Phoenix Order declares TELRIC to be unjust and unreasonable since TELRIC permits, by definition, the recovery of all costs (and thus a TELRIC-price exceeds marginal cost).
  - TELRIC does not equal MC
  - TELRIC could equal the equilibrium price with product differentiated Bertrand, capacity constrained Bertrand, or Cournot competition
- Marginal cost pricing does not permit the recovery of all costs. Therefore, it cannot be “just and reasonable” because it is confiscatory.
<table>
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<th>Phoenix Order</th>
<th>National Broadband Plan</th>
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<td>• “economic theory holds that firms operating in a market with two or a few firms (i.e., an oligopoly) are likely to recognize their mutual interdependence and, unless certain conditions are met, in many cases may engage in strategic behavior, resulting in prices above competitive levels.”</td>
<td>• “Building broadband ... requires large fixed and sunk investments. Consequently, the industry will probably always have a relatively small number of facilities-based competitors”</td>
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<td>• “prices in markets with few dominant firms are likely to be higher than prices in competitive markets “</td>
<td>• “The lack of a large number of ... facilities-based providers does not necessarily mean competition among broadband providers is inadequate. While older economic models of competition emphasized the danger of tacit collusion with a small number of rivals, economists today recognize that coordination is possible but not inevitable under such circumstances.”</td>
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<td>• “when there are only a few firms in a market, they are more likely to engage in coordinated interaction that harms consumers”</td>
<td>• “modern analyses find that markets with a small number of participants can perform competitively”</td>
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The Path Forward: Realistic Expectations

- What is the “equilibrium” level of competition in communications markets?
- What can regulation really do?
Realistic Expectations: Competition

- Phoenix Center Policy Paper No. 10 (“Changing Industry Structure”)
- Phoenix Center Policy Paper No. 21 (“Competition After Unbundling”)
- John Sutton, *Sunk Costs and Market Structure*
- Louis Phlips, *Competition Policy: A Game-Theoretic Perspective*
  - “If, at a point in time, demand is such and technology is such that, with free entry, there is room for say only two firms with a given number of products each, and if the prices and quantities at the competitive Nash Equilibrium levels, what more can [authorities] ask for?”
- 1995 Cable Competition Report (First), Appendix H
- National Broadband Plan, UNE Remand Order, Others …
Realistic Expectations: Regulation

- **1992 Cable Act**
  - The only explicit Congressional definition of “effective competition”

- **STATEMENT OF POLICY**
  - “where cable television systems are not subject to effective competition, ensure that consumer interests are protected in receipt of cable service”

- **EFFECTIVE COMPETITION**
  - “the franchise area is served by at least two unaffiliated multichannel video programming distributors each of which offers comparable video programming to at least 50 percent of the households in the franchise area; and the number of households subscribing to programming services offered by multichannel video programming distributors other than the largest multichannel video programming distributor exceeds 15 percent of the households in the franchise area”

- **Congress**
  - Regulation can’t outperform 1.5 firms
  - Deregulate with HHI = 7,450
2010 Annual Symposium