Another Look at Price Squeezes in Regulated Markets: Taking Account of Market Interdependencies

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Justus Haucap, Ruhr-University of Bochum
J. Philipp Siemer, Deutsche Telekom AG

Prof. Dr. Justus Haucap, Ruhr-University of Bochum
Industrial Economics and Competition Policy

Road Map

1. What‘s the issue?
2. Recapitulation: economic theory of predation
3. Applying the theory to telecommunications
4. The difficult task of identifying predatory pricing
5. Designing tests to identify price squeezes
6. Conclusions

1 What's the Issue?

- Retail markets are in many cases not deregulated because regulators consider price squeezes and/or predatory pricing a significant risk
- In many countries, price squeeze tests are provided for in telecommunications law (e.g., §28 TKG in Germany)
- Questions:
  - Is the above concern justified?
  - How can one identify price squeezes?
  - How should a proper price squeeze test be designed?

1 What's the Issue?

- If wholesale prices are regulated, price squeezing is just a special form of predation with the particularity that the incumbent operates an essential facility to which entrants need access
- If wholesale prices are unregulated, a price squeeze may also take the form of a "raising rivals' cost" strategy
- A price is predatory if:
  - (a) the price induces another firm to exit the market or to restrict its output, AND
  - (b) this price would not be profit maximizing wouldn't it lead to non-temporary market power

2 Economic Theory (1)

- Predation *can* be (but does not need to be!) a rational strategy for an incumbent if either:
  - entrants face stricter financial constraints (e.g., they have worse ratings on capital markets), or
  - the incumbent has informational advantages regarding costs and/or demand conditions, or
  - Some firms behave irrational.
- If one of these conditions is fulfilled, one has to look at the expected costs and additional profits from predatory pricing – these depend on entry and exit barriers

2 Economic Theory (2)

		Barriers to Entry	
		Low	High
Barriers to Exit	Low	Predation unlikely	Predation possible
	High	Predation unlikely	Predation unlikely

3 Applying the Theory

- For telecommunications markets a price squeeze does not appear to be more likely than for other industries due to:
  - cost-based regulation of wholesale prices for essential services,
  - low barriers o entry and exit in retail markets,
  - Incumbent ratings often not better than entrants' ratings,
  - Little indication of strong information asymmtries.
- Also see: Haucap, J. & J. Kruse, "Predatory Pricing in Liberalised Telecommunications Markets," pp. 43-68 in C. von Hirschhausen, T. Beckers & K. Mitusch (eds.), *Trends in Infrastructure Regulation and Financing*, Edward Elgar: Cheltenham 2004.

4 Identifying Price Squeezes

- Identifying a price squeeze is a difficult task because not every price below average, incremental and/or marginal cost is a predatory price
- Efficiency reasons for below cost pricing:
  - Overcapacities,
  - Penetration pricing/new product marketing,
  - Complementarities and
  - Two-sided markets.

5 Designing Price Squeeze Tests (1)

- Entry is *efficient* if $C_{VT} + C_{RW} + C_A \leq C_{VT} + C_{RT} \rightarrow C_{RW} \leq C_{RT} - C_A$.
- Entry is *profitable* if $C_{RW} + A \leq P \rightarrow C_{RW} \leq P - A$
- Entry is *efficient and profitable* if $C_{RW} \leq \min \{P - A, C_{RT} - C_A\}$
  - (i) $P-A \leq C_{RT} - C_A \rightarrow P \geq A + C_{RW}$ (with $C_{RW} \leq C_{RT} - C_A$)
  - (ii) $P-A \geq C_{RT} - C_A \rightarrow P \geq A + C_{RT} - C_A$
- Hence a price floor of $P \geq A + C_{RT} - C_A$ guarantees that efficient entry can take place
- Note that the incumbent's relevant *opportunity cost* are given by A, corrected by $(C_{RT} - C_A)$.

5 Designing Price Squeeze Tests (2)

- Two standards are being discussed in practice:
  - Equally efficient operator test ($P \geq A + C_{RT}$)
  - Reasonably efficient entrant test ($P \geq A + C_{RW}$)
- The latter test accounts for the disadvantages that entrants may have due to customer loyalty, lack of scale economies,
- But: allows for inefficient entry and not based on competition policy standards. In *Napier Brown – British Sugar* a price squeeze has been defined as the „[...] margin between the price which it charges for a raw material to the companies which compete with the dominant company in the production of the derived product and the price which it charges for the derived product, which is insufficient to reflect that dominant company's own cost of transformation [...] with the result that competition in the derived product is restricted."

5 Designing Price Squeeze Tests (3)

- Now: How to account for complementarities?
- Conduct test on an aggregation level which reflects the basket of services that a typical consumer (within a given tariff) will purchase
- The question to ask: Are the customers (that have chosen a particular tariff) profitable *on average*, given their total purchases
- Or put differently: Could a firm *replicate* the entire product portfolio if it operated with the incumbent's retail costs –- a single price in isolation is not relevant
- Example: Supermarket prices.

5 Designing Price Squeeze Tests (4)

- Telecommunications operators make profits from up to five sources (depending on the service under consideration):
  - Line rentals,
  - calls made with the access line provider
  - calls made with alternative operators (via CBC & CPS)
  - additional services (premium services)
  - termination of calls from other networks
- Compare *average* revenues *over all services* from typical customer with relevant *opportunity costs*.

5 Designing Price Squeeze Tests (5)

- Example: Calculation of price floor for the local line rental price

$$P_{TA}^{T} \geq A_{TAL} + c_T - c_A - \left(\begin{array}{l} \gamma \cdot \left(\pi \cdot DB_G^{\pi} + (1-\pi) \cdot DB_G^{1-\pi} \right) \\ + (1-\gamma) \cdot \left(\pi \cdot DB_Z^{\pi} + (1-\pi) \cdot DB_Z^{1-\pi} \right) \\ + \pi \cdot DB_T^{\pi} + (1-\pi) \cdot DB_T^{1-\pi} \end{array} \right)$$

- European Commission's 2003 decision against *Deutsche Telekom* may be correct or incorrect, but it is definitely not based on sound economic theory

6 Conclusions

- Price squeeze tests should be based on an efficient operator's costs, can be proxied by incumbent's costs
- The relevant opportunity costs for essential facility services (access) are the regulated access prices
- Complementarities need to be taken into account
- Hence: Price squeeze test should be based on the profitability of the entire package of services that a typical customer (within a tariff under suspicion) purchases
- The entire basket of services needs to be replicable by an operator if it had the incumbent's retail costs
- Profitability of a single price in isolation is not relevant.

Thank you for your attention!

Professor Dr. Justus Haucap
Ruhr-University of Bochum
Industrial Economics and Competition Policy
Universitätsstr. 150, GC3/62
D-44780 Bochum, Germany

Fax: +49 234 32 14311
email: justus.haucap@rub.de
http://www.rub.de/wettbewerb