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# Empirical methods in merger control

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# Use of empirical methods in merger control

- Yesterday = market delineation
- Today = unilateral effects on prices
- Tomorrow = coordinated effects, product repositioning, entry



# The added value of empirical methods

- Can empirical methods be used only if huge amounts of data are available? Not quite so  
Empirical methods are feasible also with limited information (you need more assumption)
- Advantages of empirical methods:
  - 1) assumption must be explicit
  - 2) coherent way of reasoning
  - 3) antitrust decision becomes accountable to economists community



# Legal framework

- The recent Merger regulation has changed the substantive test while Italy still adopts the dominance test
- How to deal with mergers which cause prices to rise as a consequence of oligopoly interaction? 3 possible solutions:
  - 1) In the Statement of Objection of the last case evaluated under the dominance test (PeopleSoft/Oracle) the Commission addressed unilateral effects under the collective dominance standard
  - 2) Italian Antitrust Authority addressed the same problem under the single dominance standard (Sai/Fondiaria)
  - 3) Change the Italian law
- Implications for the use of empirical methods



# 1 - Price vs. welfare thresholds

- Price thresholds (5-10 %) to delineate markets and to assess unilateral effects of mergers (<5-10%).
- Consumer surplus loss due to weaker competitive conditions is higher the wider the market
- It is a problem unless you care of a single consumer (tax payer doesn't agree) and this consumer only cares of a single product (consumer doesn't agree)
- Two alternatives: 1) variable price threshold according to the dimension of the market; 2) consumer surplus thresholds



# 2 - Geographic market delineation

- specification of SSNIP test (critical loss analysis, critical elasticity):
  - Market definition depends on demand elasticity and price-cost margin (by the way, that is why the so called Cellophane fallacy arises)
- Why is SSNIP Test virtually not used for geographic market delineation?
  - 1) quantity adjustments between regions are very limited in the short run (relevant for estimation of demand elasticity)
  - 2) firms active on several geographic markets
- Alternatives (import/export, absolute values of prices, price correlation)



# 3 – Assessing the unilateral effect of mergers

- Trade off accuracy vs. feasibility (time constraints)
- Market delineation and assessment of unilateral effect: is market definition unnecessary?
- We should pay more attention to costs
  - simulation models focus on demand analysis (costs are derived by demand parameters and Bertrand competition assumption)
  - Costs analysis can confirm demand estimation and Bertrand assumption
  - Is cost information reliable?



# 4 – How to assess the coordinated effect of mergers (1)

- Current empirical methods (concentration ratio, parallelism, maverick, etc.).
  - Rather naive and obscure collusive framework
- Can coordinated effect be simulated?
- Not robust results. They depend on
  - 1) How do cartels fix prices (joint profits max., Nash bargaining solution, Friedman balanced temptation).
  - 2) incentive compatibility (trigger strategies, optimal penal codes)
- With symmetry clouds disappear, but...  
Symmetry is not very plausible assumption





# 4 – How to assess the coordinated effect of mergers (2)

- By using Friedman balanced temptation equilibrium (common critical discount ratio) and trigger strategies, it can be shown that:
  - 1) Collusive equilibrium accommodates for asymmetry
  - 2) So asymmetry does not play any role on cartel stability
  - 3) Stability appears to be dependent on the degree of product differentiation (à la Chamberlin): profits from cheating are relatively low when products are “distant” each other
  - 4) Appraisal of unilateral effect (which is strong when the merger increases the average distance) is concordant with that of the coordinated effect



Critical discount ratio of firm  $i$

$$\delta_i = (\pi_i^s - \pi_i^c) / (\pi_i^s - \pi_i^b) \quad \text{where:}$$

- $\pi_i^c$  = collusive profit of firm  $i$
- $\pi_i^s$  = profit which firm  $i$  obtains by deviating from the collusive agreement
- $\pi_i^b$  = competitive (Bertrand) profit of firm  $i$

Balanced temptation equilibrium (Friedman)

$$\delta_1 = \delta_2 = \dots = \delta_n = \delta$$

The common critical discount ratio ( $\delta$ ) is an indicator of the cartel stability: the lower the higher the cartel stability



# Main message

Empirical methods force you to clarify assumptions



# Data

- Accounting data and sales data
- Sources: 1) merging firms; 2) their competitors (questionnaires); 3) market research firms (Nielsen, IRI-Infoscant)
  - availability and costs /time to collect
  - accuracy and reliability
- Wholesale or consumption prices?
- Confidentiality issues



# Procedures

- 1) exchange of relevant information between antitrust and merging firms
- 2) Appropriate time to disclose models (pre-notification, phase 1 and phase 2)



# Costs and possible benefits of empirical methods

- Main costs of providing answers (collecting, processing and evaluating data)
- Do merging firms benefit (for ordinary business) from information generated during the antitrust procedure?

