25th Conference on Political Economy, 12-14 October 2006 Saarbrücken

Detecting Cartels in Europe – the Role of Economics*

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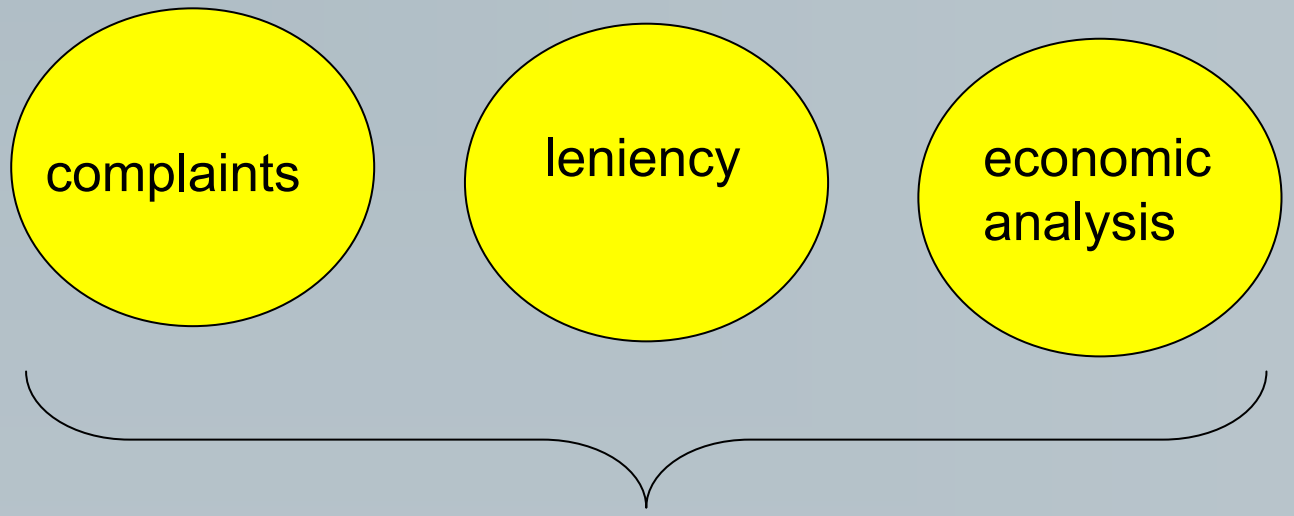
*The presentation is based on joint work with F. Maier-Rigaud (2006). The views expressed are those of the author.

overview

- policy instruments for cartel detection in Europe – current situation
- the optimal instrument mix to maximize deterrence and desistance
- economic analysis for cartel detection - 3 principles and an outline of a two-step framework
- concluding remarks

instruments for cartel detection



inspection

prosecution

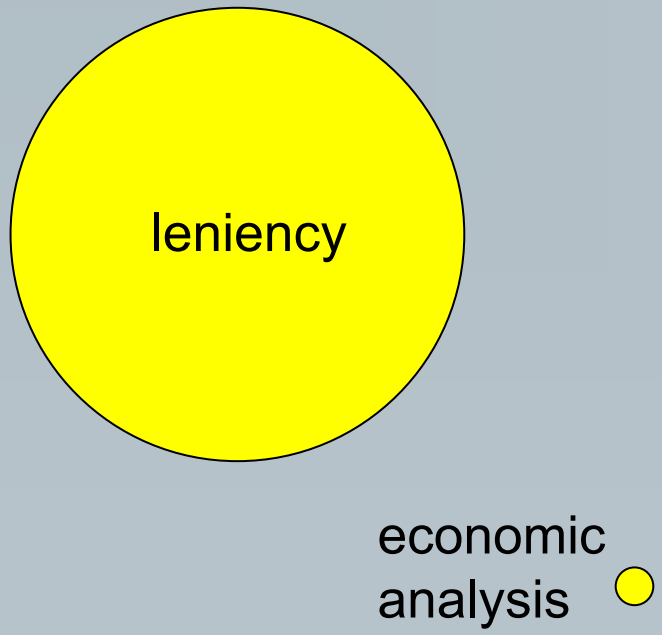
side remark: interviews with individuals under the threat of imprisonment not available in Europe – see US *leniency plus* policy

detecting cartels in Europe – current situation

- leniency program at EU level since 1996 (modernized in 2002)
- 80 applications from 1996 to 2002; 165 applications from 2002 to 2005
- from 2002 to 2005 the Commission adopted 30 statements of objections, roughly 2/3 based on leniency

Source: Commission Report on Competition Policy 2005

leniency has become the dominant instrument for cartel detection at EU level



- How should an optimal cartel policy weight the different instruments?

Arguments for a balanced instrument mix (or why a purely leniency based approach falls short of optimality)…

Arguments for a balanced instrument mix - I

- **cartel dynamics: deterrence/ desistance main objectives**

$$\frac{1}{1-\delta}\pi^{col} < \pi^{dev} + \frac{\delta}{1-\delta}\pi^{comp}$$

ex officio leniency

- **leniency increases deviation profit; ex officio (triggered by complainant or economic analysis) reduced collusive profit**
- **both leniency and ex officio reduces slack in cartel incentive constraint**
- **absence of corner solution a policy maximizing those objectives should rely on all instruments available**

Arguments for a balanced instrument mix - II

- **full deterrence/ desistance might not be achieved due to institutional & legal limitations (cap on fines; no rewards) as well as uncertainty & limited rationality by cartelists**

$$\frac{1}{1-\delta}\pi^{col} - \Delta \geq \pi^{dev} + \frac{\delta}{1-\delta}\pi^{comp}$$

- **cartels may still be observed**
- **detection based on ex officio inspections becomes the only instrument outside the logic of cartel dynamics**

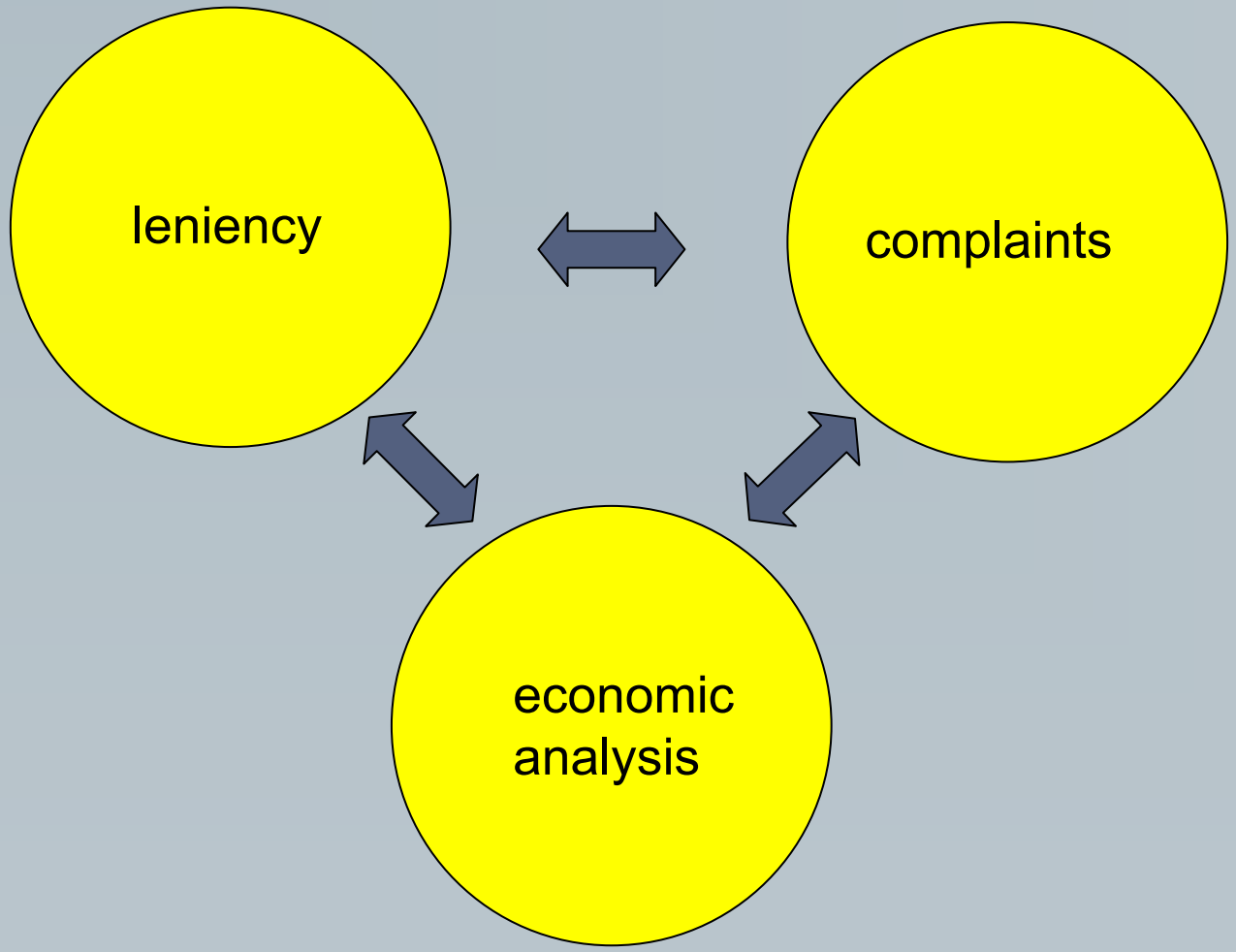
however: destabilizing marginally stable cartels may not be welfare maximizing compared to a policy of destabilizing cartels with “slack”

- Marginally stable cartels exhibit low margin between expected collusive and expected defection profits
  - ► breaking-up those cartels results in limited welfare gains
- Marginally stable cartels may often include cartels close to their imminent break-up point
  - ► leniency policy may result in “Sterbehilfe” (terminal care) for cartels
- Cartels with slack may infect neighboring markets (multi market contact logic)
  - ► detecting stable cartels provides additional welfare gains in neighboring markets

Arguments for a balanced instrument mix - III

- **ex officio policy complementary to leniency policy**
- increases incentives for the “race to leniency”
- **provides a better understanding of *the mechanics* of a cartel**
- helps to better target inspection and write better decisions

ideal enforcement: recognizing strong complementarities



economic analysis for cartel detection - 3 principles and an outline of a two-step framework

3 principles for robust economic analysis in cartel cases

- should be a credible threat
  - decrease false positives to some extent
  - reasonably robust to eliminate fishing expeditions
    - focus on changes; counterfactual analysis
- should not be easy to be circumvented (even if public)
  - has to be addressed for each individual indicator
  - there should be no single indicator in general
- should not be too resource intensive
  - marginal information should be proportional to cost of information gathering
  - has to take into account capabilities of competition authority

outline of a framework for economic analysis - objectives

- working group in DG COMP developed framework to strengthen economic analysis in cartel cases
- quantitative and qualitative economic analysis aimed at establishing the requirements
  - **for issuing an inspection decision** in a given antitrust market;
  - **justifying the opportunity cost** of carrying out an inspection.
- not a tool for proving the existence of cartels

outline of a framework – main structure

two steps:

- **industry analysis:** scoring approach aimed at exclusion of cases where cartel activity is relatively improbable (necessary requirements; minimize false negatives)
- **critical event analysis:** in-depth approach aimed at testing collusive against competitive scenario (necessary & sufficient requirements; “more likely standard”; minimize false positives)

why a two-step approach?

- **to limit resource requirements**
- **while achieving a reasonable level of robustness**

concluding remarks

- economics can play a role in a pro-active cartel policy!

But some caveats remain:

- data requirements
- administrative capabilities
- explicit vs. tacit collusion

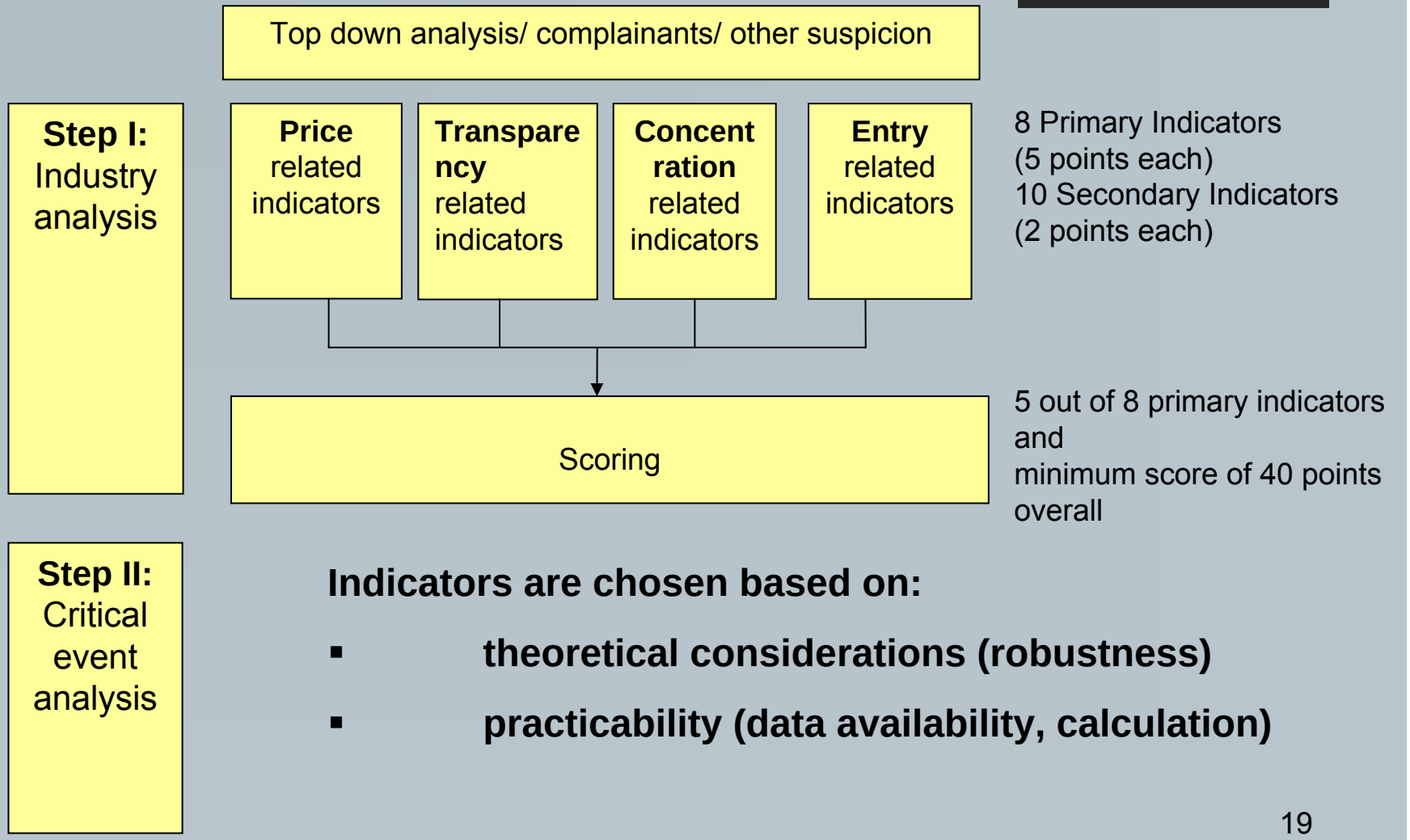
research context

- **Harrington, J.E. (2006):** Detecting Cartels. Forthcoming in: *Advances in the Economics of Competition Law*, Paolo Buccirossi (ed.), MIT Press.
- **Gual, Jordi and Nuria Mas (2004):** EU Antitrust Policy: priority setting and impact assessment study. *Internal Report*, DG COMP.
- **Grout, Paul A. and Silvia Sonderegger (2005):** Predicting cartels. *Economic discussion paper*, OFT.
- **Nera (2004):** Empirical indicators for market investigations, prepared for the Office of Fair Trading. OFT749a.
- **Abrantes-Metz, Rosa M., Luke M. Froeb, Christopher T. Taylor and John F. Geweke (2006):** A Variance Screen for Collusion. *International Journal of Industrial Organization*. 24, 467– 486.

policy context

- **OECD roundtable conference (2006)** concluding that circumstantial evidence, in particular economic evidence, is getting increasingly important for two reasons:
  - it is getting more and more difficult to find direct evidence, so that circumstantial evidence is needed;
  - economic evidence is important to trigger investigations.
- **some countries** trigger investigations based exclusively on economic indicators
  - Italian baby milk case (cross-country price benchmarking)
  - Dutch shrimps case (structural indicators)
  - economic criteria to prioritize complainants in the Brazilian gasoline retail market (margin increase& reduction of price dispersion& regions)

Step 1: Industry Analysis



Indicators are chosen based on:

- **theoretical considerations (robustness)**
- **practicability (data availability, calculation)**

Step 1: Industry Analysis cont.

- **Defining the Antitrust Market**

  best guess approach, open to modification

- **Observation period**

  period over which the analysis is carried out

- **Critical time window**

  time period within the observation period that is under particular suspicion

- **Assess individual indicators**

  underlying question, data requirements, method of calculation, threshold, motivation

► **Mixture of checklist and structural break approach**

Outcome & Limitations of Step 1

- Scoring and Qualitative assessment allow a **refinement of the theory of harm** and a **first indication on potential critical events.**
- Each individual indicator is necessarily inconclusive as to the purpose of meeting the standard for triggering an inspection.
- Even aggregating all indicators in the scoring does not fully address false positives.
- The industry analysis is concerned about picking up cartelized markets. It does not predominantly worry about false positives.
- False positives are dealt with in step 2. Step 2 aims at testing a possible theory of harm.

Step 2: Critical Event Analysis

- **Critical event analysis:** in-depth approach aimed at testing collusive against competitive scenarios (“more likely standard”; minimize false positives)
- **Critical event:** a significant change in one of the market factors (such as the number of players in the market or a change in the price level) - either itself or through the subsequent reaction of market participants to that change - allows to infer the probability of the market being either in a competitive or in a collusive situation.

► **focus is on ‘changes’**

How to identify and analyze critical events

Cartel exogenous shocks:
Discreet change in the market environment of the alleged cartel e.g.
- entry
- drastic innovation
- exogenous supply shocks

Markets affected by the alleged cartel

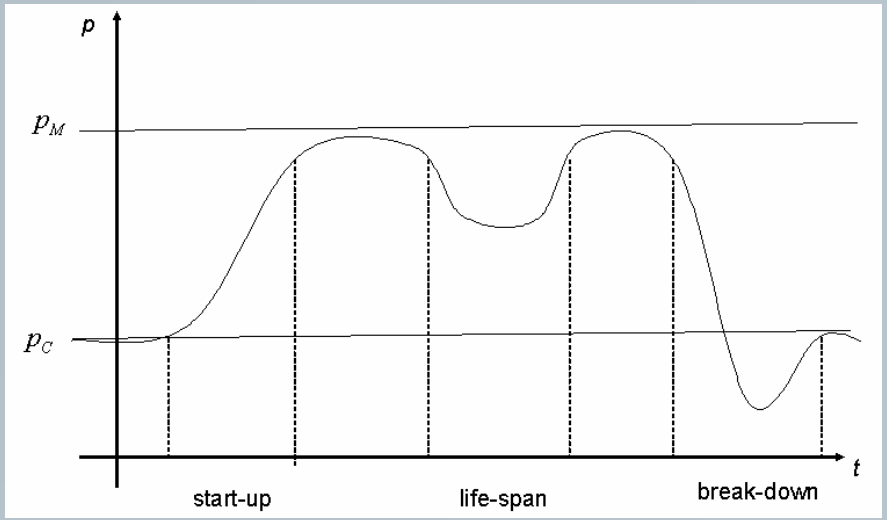
Structural break:
Discreet change in market behaviour or performance of the alleged cartel members e.g.
- drop in prices
- increased price volatility
- change in cost-price relationships

Method 1: focus on exogenous shock
Do exogenous shocks exist that should result in different reactions by a cartelized vs. a competitive market?

Method 2: focus on structural break
Do structural breaks exist that cannot be explained by the reaction of competitive markets to observable changes in the market environment?

How to identify critical events – a typology

- Ordered along the life-span of a cartel
- Overall seven critical events are identified
- Open to new ones…



For example (cartel start-up): structural break in prices and in price volatility at industry level, see Abrantes-Metz et al. (2006)

How to analyze critical events – a general test:

- **critical event evidence:** the empirical evidence of the critical event has to be (re)-assessed;
- **effective competition scenario:** it has to be assessed which factors specific to the industry could explain the observed behaviour under the assumption of effective competition;
- **collusive scenario:** it has to be assessed which factors specific to the industry could explain the observed behaviour under the assumption of collusion;
- **verification test:** based on the scenarios developed under step b) and c) it has to be argued that the observed behaviour **is more likely** to be explained by a collusive scenario.

The case library – a collection of cartel cases

1. benchmarking
2. identify appropriate analytical tools
   - which tests have proven to be useful?
   - can the test provide sufficient evidence?
3. guidance on how to carry out the analysis
   - case description, references

- **important for the creation of in-house expertise**