Circumventing Antitrust Legislation: Supply Control through Input Restrictions in European PDOs

Should economists (and policymakers) worry?

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Cal-Med meeting, Sonoma, Oct 2007

Rationale for collusion

- PDO consortia have been asking for antitrust exemptions (France, Italy)
- Demand more pressing with CAP reform, in particular scheduled suppression of dairy quotas after 2013
- Justifications
  - Certification/product development fixed costs need to be covered (economics literature)
  - PDOs provide specific amenities that are not fully rewarded by the market
- Additional decoupled subsidies?

Previous literature

- Marette et al., *ERAE* 1999, Marette & Crespi, *RIO* 2003
- Lence et al., *AJAE* 2007
- Giraud-Héraud et al., *Economie rurale* 2003

Policy question

- 2 options:
  - Extend exemptions within wine CMO to allow for quantity fixing
  - Allow production requirements to include provisions that increase costs and decrease total output
- Lence et al. (2007) : high costs of allowing collusion on inputs or production requirements (Lence et al.'s hypothesis)

Why choose an instrument run by producers themselves?

- Producers do not like to be administered and want autonomy
- Fewer administrative costs for regulators
- Other types of farm support also entail DWL
- Consumers have a choice (not taxpayers), so it may seem more equitable to ask consumers to pay

Difference with minimum quality standards

- The production restrictions we are considering do not change product quality
- Primary purpose is to make production more costly to decrease total output in equilibrium
- In analytical terms, problem comparable to immiserizing growth

Theoretical question with important policy implications

- If we let producers collude on input or production practices, which will be the resulting transfer and more importantly the deadweight loss?
- How does this DWL compare with that of monopoly pricing?
- Should antitrust authorities be concerned with such behavior?
- How do relevant variables influence the size of the DWL?
- Are some types of inputs more suitable in terms of total DWL to allow for collusion?

Analyzing input collusion

- Input quotas should cover most cases
- Increasing production cost through production requirements can be recast in terms of input quotas
- Rent to the restricted input should be included in the optimization program
- Example 1: land restrictions (already in the legislation though not necessarily binding)
- Example 2: capacity constraints (Comté)
- Example 3: limitation in the amount of concentrated feed (purchasing quota)

2 Models

- Model 1
  - Muth (1964)
  - Issue: linearity
- Model 2
  - Constant-elasticity supply and demand
  - Cobb-Douglas technology
  - CRTS
  - Issue: $\sigma=1$

1st result: small input quotas are profitable

- The model extends result on output quotas to input quotas
- Gardner's result extended to include quasi-rents to the unrestricted input when inputs are complements

2nd result

- Model 1 and model 2: input quota has a smaller total DWL than output quota
- Contrast with Lence & al.'s hypothesis
- If the transfer is enough to cover fixed costs, then the input quota is preferable
- This is reassuring since controlling input restrictions is more difficult for antitrust authorities than controlling output collusion or price setting

Effect of parameters

- DWL of optimal input quota
  - Increasing in s_1
  - Increasing in ε_1
  - Increasing in ε_2
  - decreasing in σ
- Size of transfer moves the opposite way

Contribution so far

- Structural models with a small set of assumptions
- Results have direct policy implications: input quotas (through production requirements) may be an interesting tool
  - Managed by producers
  - Small monitoring cost (?)
  - Smaller DWL than output collusion (but transfer smaller as well)
  - Choice of requirements is approved by public authorities who can therefore make *ex ante* decisions on which input(s) will be subject to collusion

To do

- Can we extend the result to more general production models?
- Get rid of functional form assumptions while keeping standard convexity properties of the production function