CENTRE FOR COMPETITION POLICY

Tacit Collusion, Firm Asymmetries and Numbers: Evidence from EC Merger Cases

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Tacit Collusion, Firm Asymmetries and Numbers

CCP Policy Briefing

BACKGROUND

- The received wisdom about tacit collusion is that it is more likely, the fewer leading players there are in a market, and the more symmetric they are. However, in spite of the theoretical consensus, the empirical literature offers few stylised facts on the most simple of questions – **how few is few, and how symmetric is symmetric?**
- This paper attempts to fill this gap in knowledge, albeit in an indirect way, by focusing on the one area of policy where Competition Authorities (CA) do assess the *prospects* of tacit collusion and intervene accordingly. This is in the area of merger control for the subset of cases which may have coordinated effects/collective dominance.

THE CD SAMPLE

- From the population of European merger cases we identified 62 mergers in which the text of the Commission's report includes a non-trivial discussion of the possibility that the merger might lead to collective dominance in at least one of the markets potentially impacted upon by the merger. It is this subset of cases which forms the database for the current paper.
- There are two sub-samples of mergers in the database, distinguishing whether or not the merger was challenged in one or more market. Even within the sub-sample where intervention did occur (25 mergers), there are differences between markets: single dominance (SD), collective dominance (CD) and non-intervention (NI) are all possible with SD interventions outnumbering CD decisions – 73 as opposed to 45.

METHODOLOGY

- In its assessment of horizontal merger we assume the European Commission makes a simultaneous choice between CD, SD and NI for each market. The choice is based on an assessment of the likelihood of competitive harm, employing the published guidelines. These typically enumerate a list of relevant merger and market characteristics; **a vector of structural indicators**, **a checklist vector of market characteristics (for example price transparency and entry barriers) and dynamic measures of competition**. It is hypothesised that the Commission's structural model has two dimensions:
    - the level of concentration (measured by the sum of the market shares of the two largest players post merger)
    - size symmetries amongst the leading players (measured by the ratio of the market shares of the two largest players, post-merger)

By carefully selecting a sample of markets for which there is reason to believe that all the other necessary market conditions are satisfied, and then, only within that sample, we attempt to discriminate between the Commission's decisions (CD, SD or NI) in terms of the structural model.

KEY FINDINGS

- Table 1 overleaf presents the predictions from the structural model estimated from mergers in which the Commission has intervened in one or more markets. **As can be seen, CD and SD are both significantly more likely the higher is concentration; and**

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collective (single) dominance are more likely the more (less) equally sized are the top two firms.

Table 1: Possible outcomes at different sizes for #1 firm

S1 (%)	NI	CD	SD
'Low, <25	√		
'Intermediate', 25-52	√	√	√
'Intermediate-high',53-60		√	√
'High', >60			√

- As can be seen from the table, if the larger firm has no more than a quarter of the market (S1<25%) the Commission will not intervene, while if it has more than 60%, the decision will be single dominance. It is only in the intermediate range that the share of the second firm becomes important. So long as S1≤52%, anything is possible: single dominance if S2 is very small, no intervention if S2 is sufficiently large to counteract the potential dominance of the larger firm, or collective dominance as the two firms become more equally sized.

POLICY ISSUES AND THE WIDER SIGNIFICANCE OF OUR RESULTS FOR TACIT COLLUSION

- It is clear that the Commission views collective dominance as a rare occurrence.
- In assessing the likelihood of collective dominance in a given market, the Commission is guided by both market structural variables and a set of other market characteristics. It appears that both sets of variables have the status of necessary conditions.
- On the structural side, both high concentration and reasonably symmetric market shares of the leading players are required. For this reason the HHI index is shown to be a very blunt tool for identifying likely cases of collective dominance.
- Strikingly, with only one exception, collective dominance has never been associated with more than just two firms. Intriguingly, this resonates with the message which is emerging from the experimental literature on tacit collusion.[1]
- This is in marked contrast with what we know from the empirical literature on cartels, where very often far more than just two firms are involved. Evidence from the official reports on real world cartels suggests that they often involve sets of firms with far greater market share asymmetries than those we have found in the current sample of collective dominance mergers. This is a topic on which further research is merited.

THE CCP

The ESRC Centre for Competition Policy (CCP), at the University of East Anglia, undertakes competition policy research, incorporating economic, legal, management and political science perspectives, that has real-world policy relevance without compromising academic rigour.

FOR MORE INFORMATION

The full working paper (CCP Working Paper 07-7) and more information about CCP and its research is available from our website: www.ccp.uea.ac.uk

ABOUT THE AUTHORS

- **Steve Davies** is a founding member of CCP and Professor of Economics at the University of East Anglia. His research interests include: the economics of competition policy; European industrial structure; merger simulation; and multinational firms. He is a member of the Academic Panel which advises the Office of Fair Trading and is currently working on a book on merger remedies.
- **Matt Olczak** is a part-time Research Associate at CCP and in addition is studying for a PhD in Industrial Organisation. His current research is looking at tacit collusion both theoretically and in EC merger cases. Future research will examine the role of merger remedies in preventing tacit collusion.

[1]See for example, Huck, S., Hans-Theo, N., and Oechssler, J., (2004). "Two Are Few and Four Are Many: Number Effects in Experimental Oligopolies ". *Journal of Economic Behavior and Organization*, 53, 435-446.

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