

Collusion under Private Monitoring with Asymmetric Capacity Constraints

KEYWORDS: collusion, mergers, imperfect monitoring, merger policy

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BACKGROUND

- The recent collusion theory literature has developed a clear consensus that greater asymmetries undermine the sustainability of collusion.
- Advances have been particularly important for merger policy as they have highlighted which types of mergers can increase the likelihood of tacit collusion.
- Findings are robust when collusion is analysed under perfect observability where firms can directly observe their rivals' actions and so they can immediately detect when a rival has deviated from the collusive agreement.
- However, many mergers occur in markets in which there is imperfect observability because there is the potential for secret price cuts.

METHODOLOGY

- The authors begin to fill a gap in the literature by exploring the effects of asymmetries in capacity constraints on collusion where demand is uncertain and where firms must monitor the agreement, not by direct observation, but through their private information on sales and prices.
- The implications for merger policy are explored by analysing both the unilateral and coordinated effects of mergers in a unified framework rather than independently of each other.

KEY FINDINGS

- Private monitoring perfectly detects deviations from a collusive agreement when demand fluctuations are sufficiently small. The critical level is determined by the size of the smallest firm's capacity.
- Otherwise, monitoring is imperfect and punishment phases must occur on the equilibrium path.
- Collusion is hindered in both cases when the largest firm has more capacity and when the smallest firm has less.
- It is shown that, in contrast to collusion under perfect observability, a merger that creates a near-monopoly would lead to lower consumer surplus than one that facilitates collusion by creating a more symmetric capacity distribution, when demand fluctuations are sufficiently large.
- Through an example, it is shown that a collusive symmetric duopoly could have substantially higher consumer surplus than more asymmetric non-collusive duopolies.

POLICY ISSUES

- Findings have two implications for merger policy:
 - Findings from the analysis re-emphasise the fact that a lack of transparency about rivals' prices and sales is not a sufficient condition to rule out coordinated effects. It is also necessary to check that firms are unable to detect deviations from the collusive agreement using only their own prices

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and sales. Findings suggest this possibility is less likely when the market structure is more asymmetric.

- Mergers that create symmetric market structures and raise concerns of coordinated effects should not be presumed to be more harmful than asymmetric market structures where collusion is not considered a problem. A collusive agreement may require sufficiently frequent and long price wars that actually increase consumer surplus compared to an alternative outcome where collusion will not arise. Findings suggest this outcome is more likely when market demand fluctuates to a large extent over time.

CCP Policy Briefings

working paper 14-4

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