An ESRC Research Centre

CCP CENTRE FOR COMPETITION POLICY

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Structural Remedies in Merger Regulation

CCP Policy Briefing

Structural Remedies in Merger Regulation in a Cournot Framework

BACKGROUND

- In both EU and US merger regulations, the prime objective of the antitrust agency is to protect consumers from the price increases that may follow a merger as a result of increased market power.
- If there are no cost reductions due to a merger, the merged firm finds it profitable to exercise its market power through a price increase (the market power effect). But if synergies between merging firms are substantial, then cost reductions outweigh the market power effect and prices might decrease after the merger to the benefit of consumers (the efficiency effect).
- To prevent possible abuse of market power, an antitrust agency can prohibit a merger. Alternatively, an agency can choose between behavioural and structural remedies to restore effective competition in relevant markets in the post-merger phase.
- *Behavioural* remedies set constraints on the merged firms' future behaviour. However, the implementation of the post-merger phase can be difficult. *Structural* remedies modify the allocation of property rights and can create new firms through entire or partial divestiture of assets. In the EU, the competition agency prefers to use structural remedies because they are easy to implement and, once implemented, there is no need to monitor the behaviour of the merged firm afterwards.
- This paper focuses on the merger of two firms in an imperfectly competitive market in which incumbents maximise profits on the assumption that the output of competitors remains constant (the Cournot framework). It is the first paper to formally analyse the use of structural remedies as the means to protect consumers from post-merger price increases, and in an environment in which the agency has the option of requiring the merged firm to divest some or part of its assets by auction, either to an existing competitor or to a potential new entrant to the market.

METHODOLOGY

- The paper develops a theoretical model in which the more fixed capital a firm possesses, the lower are its costs of production and, hence, there is the potential for a merged firm to benefit from efficiency gains. At issue is the balance between the market power effect and the efficiency effect and, hence, the behaviour of prices in the post-merger phase.
- Where the agency intervenes, intervention takes the form of forcing divestiture of assets via an auction. A merger involving divestiture is possible only if the merging firms expect a higher joint profit after the merger including the revenue received from auctioning assets than the sum of profits to the separate firms before merger.
- The pre-merger equilibrium is compared with the post-merger equilibrium under different conditions with a view to determining whether the antitrust agency should intervene in each case and, if so, whether it should force divestiture, with the divested assets going to an existing competitor or to a new entrant.

KEY FINDINGS

- Three components of the model affect equilibrium price in the market: the number of firms, and the degree of symmetry amongst firms, negatively affect equilibrium price, while marginal costs positively affect equilibrium price.
- In the symmetric case *without agency intervention*, there are three firms possessing an equal amount of fixed capital and the same production technology and, hence, the merged firm possesses more fixed capital. For a wide range of parameters, the efficiency effect outweighs the market power effect and there is no need of any divestiture to ensure that prices do not increase. It is always profitable for the firms to merge without raising prices in the post-merger phase.
- In the symmetric case but *with the possibility of divestiture to an existing competitor*, any divestiture leads to lower prices than would prevail without divestiture: it is always better to take assets from the merged firm and give them to the smaller firm such that all firms in the market possess an equal amount of fixed capital.
- In the symmetric case *with the possibility of divestiture to a new entrant*, and where the pre-merger market is characterised by a symmetric cost structure and a new entrant with

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E·S·R·C ECONOMIC & SOCIAL RESEARCH COUNCIL the same technology as all other firms, there is no divestiture to the new entrant that would decrease prices because of loss of symmetry to the cost structure in the post-merger phase. However, if a pre-merger market is characterised by a non-symmetric cost structure, an auction of assets can lead to different outcomes.

- In the non-symmetric case, there are three firms with equal amounts of fixed capital but with *different technological parameters*. Two sub-cases are considered: where there is merger between two firms with the possibility of divestiture to an existing competitor, and where there is merger between two firms but with the possibility of divestiture to a new entrant.
- Numerical analysis reveals that the firms' production costs are crucial to the behaviour of prices in the post-merger phase. There are parameters where a new entrant wins the auction, price decreases, and it is profitable for the merging firms to proceed with the merger and divestiture. But there are parameters where a new entrant wins the auction, the price decreases, but the new market structure is unprofitable for the merging firms and, hence, will be abandoned. The outcome turns on the viability and efficiency of a new competitor: the possibility of a new, more efficient competitor appearing on the scene will lead merging firms to prefer to abandon the merger.
- A situation may also arise in which the existing competitor does not allow the merger to take place simply by outbidding a new entrant and causing price to increase. In this case, the agency rejects the purchaser of divested assets.
- Numerical analysis exposes those cases where the merging firms abandon a merger calling for divesture to an existing competitor or to a new entrant, thereby foregoing expected profits in the future, and where consumers are left with the pre-merger price which could have decreased due to the merger.

POLICY ISSUES

- The paper identifies the conditions under which forced divestiture of assets by auction will enhance consumer welfare while ensuring that the merging firms have an incentive to pursue the merger.
- Key parameters of a merger that an agency will take into account include the production costs of all actual and potential participants in the merger, both pre-merger and post-merger. These determine the balance between the efficiency effect and the market power effect on prices in four respects:
    - the efficiency of firms in the post-merger phase;
    - the viability of a new entrant and their efficiency relative to the merged firm in the event that assets are divested and the new entrant is successful in bidding for them;
    - the efficiency of an existing competitor relative to the merged firm in the event that assets are divested and the existing competitor is successful in bidding for them; and
    - the profitability of the merger for the merging firms and, hence, whether they have an incentive to proceed with the merger.
- From the results of the numerical analysis, we can suggest the agency is pro-active in the selection of a potential purchaser of divested assets. The agency can stipulate in the merger guidelines that, first, it wants to look for a new entrant (a viable one), and that only if one is not found or is not desirable, will it consider an existing competitor as the potential purchaser of divested assets. For some parameters, the agency is better off excluding an existing competitor from the auction. This process could lead to a more favourable outcome for consumers and merging firms.

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 07-16) and more information about CCP and its research is available from our website: www.ccp.uea.ac.uk

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