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European Economic Review 49 (2005) 717 – 743

EUROPEAN ECONOMIC REVIEW

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Downstream merger with upstream market power

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Received 10 January 2001; accepted 30 April 2003

Abstract

We examine how a downstream merger affects input prices and, in turn, the profitability of a such a merger under Cournot competition with differentiated products. Input suppliers can be interpreted as ordinary upstream firms, or trade unions organising workers. If the input suppliers are plant-specific, we find that a merger is more profitable than in a corresponding model with exogenous input prices. In contrast to the received literature, we find that it can be more profitable to take part in a merger than being an outsider. For firm-specific input suppliers, on the other hand, results are reversed. We apply our model to endogenous merger formation in an international oligopoly, and show that the equilibrium market structure is likely to be characterised by cross-border merger.

JEL classification: J51; L13; L41

Keywords: Merger profitability; Input suppliers; Trade unions; Cross-border merger

1. Introduction

Downstream mergers may affect not only output prices, but also input prices. Empirical work suggests that mergers can affect wages, the price of one of the most important inputs to production (see e.g. Peoples et al., 1993; McGuckin et al., 1995). Despite this, the theoretical literature on mergers typically does not investigate possible links between mergers on the one hand and wages and other input prices on the other,

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0014-2921/$ - see front matter
doi:10.1016/S0014-2921(03)00068-0

but rather concerns itself with how a merger affects the rivalry among firms in the downstream market.[1] The purpose of this paper is precisely to study how a downstream merger may trigger lower or higher input prices, and how this in turn influences the profitability of the merger.

Can a merger that is wholly anti-competitive be profitable? This question was raised in a well-known paper by Salant et al. (1983). They showed that in a model with homogeneous goods, Cournot competition, linear demand and exogenously given and equal marginal costs, only mergers that almost lead to a full-blown monopoly would be profitable. This is quite a counter-intuitive result, and many authors have highlighted the weaknesses of this model. Another prediction in the Salant et al. model is that free-riding incentives are always present: even if a merger is profitable it would be even more profitable for firms not to take part in the merger.[2] One aspect of the Salant et al. model is that a merger is seen simply as the elimination of one firm in an oligopoly. The merged entity is no larger or different than any other firm that did not participate in the merger. Deneckere and Davidson (1985) used a model where a merged unit is larger than any of the original firms, in the sense that the participants keep all their brands after the merger.[3] Assuming product differentiation and Bertrand competition, they found that merger without marginal cost savings tend to be profitable. Even in this setting, though, it is better to free-ride on the merger than to participate.

Perry and Porter (1985), along with Farrell and Shapiro (1990a,b) and McAfee and Williams (1992), also challenged the view that a merged firm is no 'larger' than any of the constituent firms. These studies introduce the existence of some 'crucial assets' that are in limited supply in order to capture the notion that some firms are larger than others in a homogenous product industry. This assumption implies rising marginal cost of output production and, consequently, there are internal cost savings from mergers which could make a merger profitable.[4]

Our contribution is to point out that even without the possibility of internal cost savings from a merger, lower marginal costs can also result from the fact that other

[1] There are a few notable exceptions. González-Maestre and López-Cuñat (2001) and Ziss (2001) analyse merger in a homogeneous Cournot model where each owner delegates output decisions to a manager. The manager's incentive scheme, which is endogenous in the model and thereby affected by a merger, can be regarded as an input price. Since the incentive scheme is set by the owner, these models are distinctly different from ours, where we have independent input suppliers that set input prices. In Bárcena-Ruiz and Garzón (2000), a merger affects wage setting. However, they analyse a merger from duopoly to monopoly. Horn and Wolinsky (1988a) apply a bargaining model to analyse a merger from duopoly to monopoly, either upstream (unions) or downstream (firms). Our approach is different in several ways, though. Horn and Wolinsky consider downstream merger only in the case of a single upstream input supplier. For our purposes, this turns out to be the least interesting case. Furthermore, since we are concerned about the well-known free-rider problem in the merger literature, we apply a model which includes a non-merging firm.

[2] This free rider problem was first pointed out in Stigler (1950). Fridolfsson and Stennek (2002a) show that this mechanism may delay a merger rather than prevent it completely.

[3] See also Lommerud and Sørgard (1997).

[4] Fridolfsson and Stennek (2002b) also work with the assumption that a merger in oligopoly can lower marginal cost.