Strategic Buying or Selling?: The Behavior of Vertically-Integrated Firms in the Intermediate Goods Market

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Abstract

This paper considers a successive oligopoly model in which a vertically-integrated firm (VI firm) can buy or sell intermediate goods. We find that when there are only a small number of VI firms in the market, they tend to buy or even to store up intermediate goods. In our setting, a vertical merger will not result in market foreclosure and it always increases social welfare.

- JEL Classifications: L11, L13
- Key words: Market structure, Vertically-Integrated firms, Strategic buying

I. Introduction

Mergers always attract regulators’ attention, because of their possible negative effect on social welfare. However, economists show that a vertical merger might increase social welfare instead. For instance, Spengler (1950) shows that if both the downstream and upstream markets are monopolized, then their merger can avoid the problem of “double marginalization,” and will lead to a decline in the final goods price and improve social welfare. In the case of an oligopoly, Salinger...
(1988) finds that a vertical merger may result in market foreclosure and lower social welfare. This paper relaxes the assumption by Salinger (1988) that vertically-integrated (VI) firms do not trade in the intermediate goods market and reexamine the issue. We find that a vertical merger never results in market foreclosure and social welfare always improves as a result.

Greenhut and Ohta (1979) are the first to analyze vertically-related markets. They set up a successive model and compared the equilibrium prices when all firms are non-integrated and when some are integrated. Using the setup by Greenhut and Ohta (1979), Salinger (1988) analyses the possibility of market foreclosure after a vertical merger occurs. Both papers assume that VI firms do not intervene in the intermediate goods market, i.e., VI firms neither buy from non-integrated intermediate goods supplier, nor do they sell the intermediate goods to non-integrated downstream firms.¹

Schrader and Martin (1998) try to relax Salinger’s assumption and consider VI firms that trade in the intermediate goods market. They assume that VI firms always buy intermediate goods in the market, and in their model each VI firm holds a “Cournot belief”: when one more unit of intermediate goods is sold, final goods supplied in the downstream market are expected to increase by one.² This Cournot belief cannot be justified rationally, when one considers all possible reactions to a VI firm’s sale of intermediate goods. This paper instead considers VI firms as Cournot players and analyzes the strategic behavior of a VI firm in the market of intermediate goods.

Following Spencer and Jones (1992), we consider VI firms to intervene in the intermediate goods market so as to raise their rivals’ production cost. Under this assumption, we show that VI firms may strategically buy or sell intermediate goods. The behavior of VI firms is closely related to the overbuying behavior described by Salop and Scheman (1983) and (1987), where a predator purchases an unnecessarily large amount of inputs in order to raise the input price. The difference

¹VI firms do intervene in the intermediate market. In Taiwan, Nan Ya Corporation and Formosa Chemical & Fiber Corporation, which both belong to Formosa Enterprise Group, the top 1 enterprise group in Taiwan, are perfect examples. Nan Ya Corporation sells intermediate goods, polyester chips and polyester fully oriented yarn (besides its final product, polyester draw textured yarn), as does Formosa Chemical & Fiber Corporation which sells not only nylon draw textured yarn to the market, but also the intermediate material, nylon chip and nylon fully oriented yarn. This suggests to us that it seems unsuitable to assume that VI firms withdraw from the intermediate goods market.