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DEVELOPMENTS IN THE COMPETITIVE ANALYSIS OF MERGERS INVOLVING DIFFERENTIATED PRODUCTS

New methods developed by the antitrust authorities for analyzing the competitive effects of mergers involving differentiated products may have important implications for antitrust policy. The new methods involve estimating price increases that might result from a merger that enhances unilateral market power. Estimated price increases that exceed a threshold will lead to the investigation of other factors, such as entry and merger-related efficiencies. If that investigation fails to find facts favorable to the merger, the authorities will attempt to stop the transaction. The authorities have yet to indicate how large an estimated price increase is sufficient to generate further investigation, but it appears to be far below the 5 percent increase used to define markets.

The analytical methods employing estimated price increases appear to be intended to replace market shares and changes in concentration in antitrust analysis. However, a closer examination reveals that the methods usually rely on market share information. The estimated price increases are based on assumptions that guarantee that the larger the market shares of the merging parties, the larger the estimated price increases. Thus, rather than replacing the emphasis on market share, the new methods simply have refocused it.

Of the several methods that have been developed for estimating merger-related price increases, two have received particular attention. The first is the Antitrust Logit Model (ALM). The ALM calculates price increases based on information on market shares and elasticities and cross-elasticities of demand. Although the frequent unavailability of elasticity estimates would seem to limit the usefulness of the ALM, the model's results are not very sensitive to the estimated elasticities. Therefore, the ALM may be employed even if there is significant uncertainty concerning elasticities. In addition, the use of the elasticity of demand may make the ALM less sensitive to market definition. Market shares of the merging parties may be high in an inappropriately narrow market, but the elasticity of demand in that market would be high. The greater the elasticity of demand (*i.e.*, the more sensitive consumers are to price changes), the less likely it is that a price increase will be profitable.

The ALM relies on several assumptions. It assumes that each firm sets its price assuming other firms hold their prices constant. This assumption rules out collusive behavior, as commonly defined, but it also rules out competitive behavior. Moreover, the ALM is limited to a specific form of product differentiation, one that will not adequately characterize the conditions of many industries. The ALM assumes that every product in the market is equally substitutable for every other product. The substitutability assumption can be relaxed, but only at the cost of introducing additional potentially troublesome assumptions. The assumption of equal substitutability ensures that market shares will have an important role in determining the estimated price increases. If the ALM's assumptions do not accurately describe the conditions of a merger, the authorities will adjust the ALM's estimates, but it is unclear how those adjustments should or will be made.

The second method enables one to estimate price increases when there is insufficient information on

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demand elasticities to allow use of the ALM. This method is based on the Diversion Ratio, which is the share of the sales lost by one merging party when it increases price that would be captured by the other merging party. Under the assumption that all products are equally substitutable for each other, Diversion Ratios can be calculated using market shares. The Diversion Ratios are then used with the firm's pre-merger profit margin to estimate the post-merger price increase. The higher the Diversion Ratio and the lower the profit margin, the larger the estimated price increase. As with the ALM, a specific form of product differentiation is assumed for the Diversion Ratio calculation, resulting in a close relationship between estimated price increases and market shares.

The implications of these models seem to conflict with parts of the 1992 Horizontal Merger Guidelines, such as the 35 percent rule. The estimates of price increases are based on the possibility of the unilateral exercise of market power; they ignore the possibility of collusion. The Guidelines § 2.211 suggests that unilateral competitive effects will not be of concern unless the combined market shares of the merging parties exceed 35 percent. Simulations of merger effects using the ALM, however, find no support for the 35 percent rule. Although the antitrust authorities have shown no inclination to revise the published Guidelines, the use of the new methods implies that the Guidelines alone are insufficient to describe policy towards mergers, at least those involving differentiated products.

EI Senior Economist Henry B. McFarland has worked on many mergers involving differentiated products, including some recent mergers in which the new methods of estimating post-merger price increases were used.

WHEN SHOULD DAMAGES BE DISCOUNTED?

Discounting the value of economic damages to take into account risk as well as the declining value of money over time is a well-established practice. Yet in some cases, damages are not discounted. In commercial litigation, damages in each year are often discounted back to the inception of the fraud or breach. By contrast, in a price-fixing conspiracy, one typically estimates the amount of the overcharge on all units during each year, without discounting back to the beginning of the conspiracy. Why are damages discounted in one case but not the other? The answer lies in the duration of the effects of the wrongful acts.

In computing damages, one standard is to compensate the plaintiff at the time of the wrongful act. Damages are discounted back to the time of the wrongful act when the effects flowing from the wrongful act span a long time period, but not when the wrongful act and its effects are concurrent and short-lived. The difficulty lies in distinguishing a wrongful act that has long-lasting effects from a series of wrongful acts with concurrent, short-lived effects. In commercial litigation, one discounts damages back to the time of the wrongful act when the effects span several years. (Because the value of a damage award erodes over time, some courts permit the addition of prejudgment interest to the damage award.) In price-fixing cases, one usually does not discount because the damages come from a series of wrongful acts and the effects of each act last only a short time. In essence, so little time elapses during the effects of each act that there is no need to take into account risk and the declining value of money.

To understand that a price-fixing conspiracy is a series of wrongful acts with short-lived effects, it is helpful to consider what would happen if the price-fixing conspiracy suddenly ended. Presumably, prices would quickly drop to competitive levels, eliminating the overcharge. Damages from a price-fixing conspiracy continue over time only because the conspirators maintain their agreement to raise prices day after day. The damages last only as long as the agreement lasts and, in principle, could be ended at any time. Hence, a price-fixing conspiracy does not involve a single decision to raise prices, but rather ongoing decisions to adhere to the agreement and maintain high prices. The fact that prices would quickly drop if the conspiracy ended indicates that the effects of the conspiracy are not long lasting.

Commercial litigation may also involve a series of wrongful acts with short-lived effects, similar to a price-fixing conspiracy. For example, if a company signed a contract to buy products or services, but breached the contract and bought the products or services elsewhere, the breach could involve a series of wrongful acts. By thinking about what would happen if the company stopped breaching the contract, one can assess the duration of the effects of the wrongful act. If the breaching company could quickly switch all

of its purchases back to the wronged company, the effects of a breach would be short-lived. In this case, even if the breach lasted for years, it should be treated as a series of wrongful acts with short-lived effects, and the damages would not be discounted.

Other wrongful acts may have long-lasting, possibly irreversible, effects. A wrongful act may destroy an asset that would have yielded a stream of profits. The effects of that wrongful act would last as long as the stream of profits flowing from the asset would have lasted. The lost profits from each year would be discounted back to the time of the wrongful act.

The damage analysis becomes more complicated with a series of wrongful acts that have long-lasting effects. The lost profit stream from each wrongful act should be discounted in each year back to the time of that act. For example, if wrongful acts resulted in a company losing multi-year contracts with various customers (third parties), the lost profits from each contract would be discounted back to the start of that contract, when the wrongful act began damaging the company. As another example, if the wrongful acts delayed a stream of profits for several years, there would be a stream of lost profits resulting from one year's delay, a stream of additional lost profits resulting from a second year's delay, and so on. The lost profits from each year's delay would be discounted back to that year, when the wrongful act began to inflict damages.

In sum, the decision to discount depends on the duration of the effects flowing from the wrongful acts, not on the duration of the wrongful acts themselves. As explained above, a price-fixing conspiracy could last for years, but the effects can be quickly eliminated by ending the conspiracy. As a result, the conspiracy is better analyzed as a series of wrongful acts with concurrent effects. The damages from these acts should not be discounted back to the beginning of the conspiracy. To determine whether a wrongful act has long-lasting effects that may require discounting, one must assess whether and how quickly the plaintiff's stream of profits would be restored by ending the wrongful act.

EI Senior Economist Gale Mosteller has analyzed economic damages in a variety of cases involving breach of contract and fraud as well as Lanham Act, Sherman Act and Robinson-Patman Act violations. She is co-author of The Economics of a Disaster: The Exxon Valdez Oil Spill *pertaining to fishermen's damage claims.*

ARE THERE CRITICAL LEVELS OF CONCENTRATION IN ANTITRUST?

The 1992 Horizontal Merger Guidelines allow for the consideration of specific characteristics of markets in different industries. As the Guidelines acknowledge, these characteristics can have a significant impact on the competitiveness of a market. Despite this acknowledgment, the Guidelines presume that small changes in the level of concentration in markets with fewer than six equal-size competitors are likely to create or enhance market power or facilitate its exercise. This presumption is not supported by the economics literature. There is neither a theoretical nor an empirical basis for a unique critical concentration level above which the exercise of market power is likely. Similarly, there is no foundation for the specific concentration levels identified in the Guidelines. More generally, the economics literature does not provide the basis for a merger enforcement policy based principally on concentration levels.

A review of theoretical oligopoly models indicates that their results are quite sensitive to each model's assumptions. The Cournot model, which is the principal model that predicts a relationship between the HHI and greater-than-competitive pricing, does not indicate the existence of any critical concentration level, including the 1,800 HHI level used in the Guidelines. Moreover, the assumptions of the basic Cournot model are generally unrealistic and do not accurately describe the behavior of most firms. More sophisticated Cournot-type models take into account the importance of non-concentration factors, but they eliminate the basic concentration-price relationship implied by the simpler models.

Some versions of models with more realistic assumptions, such as the Bertrand model, show that only a small number of firms is needed to achieve a competitive result. Recent research involving dynamic oligopoly models indicates that, rather than concentration levels, the principal determinant of greater-than-competitive pricing is the ability of firms in a market to quickly detect and punish competitive pricing by their competitors. When detection and punishment are quick, a monopoly-like result is likely

SELECTED EI CASES IN 1995

Prime Time Access Rule: Working with counsel for ABC, CBS and NBC, EI President Bruce M. Owen and other EI economists helped persuade the Federal Communications Commission to eliminate restrictions that effectively prevented the three major networks from offering television programming during the prime time access period.

Dubuque Hospital Merger: EI Principal Barry C. Harris testified on behalf of the two hospitals in Dubuque, Iowa that competition would not be harmed by their merger. Based on patient migration patterns, use of large physician clinics, and results of a hospital cost study and a patient survey, the court agreed that the geographic market was larger than DOJ argued. The merging hospitals were represented by Honigman Miller Schwartz and Cohn.

Oklahoma Milk Class Certification: Class certification was denied for the plaintiff school districts following a hearing in which EI Principal William C. Myslinski testified for defendant Borden, Inc. The court determined in this price-fixing matter that questions of fact and law affecting individual plaintiffs would predominate over questions common to all plaintiffs. Borden was represented by Crowe & Dunlevy.

Natural Resource Damages: Working with Wilmer, Cutler & Pickering on behalf of the Trans-Alaska Pipeline Liability Fund, EI President Bruce M. Owen, Senior Economist David A. Argue and Director of Environmental Analysis Susan E. Dudley critiqued the estimates of lost recreational value proposed by the State of California resulting from the *American Trader* oil spill. EI also calculated alternative estimates of recreational damages in this matter that was settled out of court.

Steel Antidumping: In an antidumping/subsidy case involving oil country tubular goods, testimony by EI Principal Joseph W. McAnneny and Vice President Robert D. Stoner before the International Trade Commission helped win an affirmative decision against imports from virtually every Respondent country. The Petitioners were represented by Skadden, Arps, Slate, Meagher & Flom; Wiley, Rein & Fielding; and Schagrin Associates.

even with a large number of competitors. By contrast, a small number of firms will likely produce a competitive result if detection and punishment occur slowly.

Like the theoretical literature, the empirical economics literature does not support the existence of any unique critical concentration level. Moreover, many of the empirical studies suffer from fundamental problems that cause their results to be unreliable. Perhaps the most common shortcoming in the studies is a failure to base the analysis on properly defined antitrust markets. Even when the empirical literature identifies statistical relationships between higher prices and concentration, these relationships vary from study to study and from industry to industry. In addition, these empirical studies often indicate that only a small price impact (i.e., about one to two percent) is associated with significant increases in concentration.

Studies of the banking industry provide a good overview of the empirical literature because of the large number of banking studies and the relatively homogenous nature of the products studied. Nonetheless, the banking studies do not reveal a consistent pattern of findings. Many fail to identify a statistically significant positive relationship between concentration and price; others find significant variation in this relationship from year to year. Overall, there is little, if any, agreement among the banking studies concerning the functional form of any concentration-price relationship.

The determinants of a market's competitiveness are varied, with concentration levels being only one factor. The variation among the results of the empirical studies suggests that non-concentration factors are likely to be more important in determining a market's competitiveness. The empirical studies provide no basis for employing concentration as a primary determinant of a market's performance or for establishing a critical concentration level for enforcement. Thus, while these studies lend some support for considering concentration levels in screening mergers, their overall findings support a policy of flexibility in analyzing the effects of non-concentration factors in particular markets.

This article summarizes a survey of the economics literature by EI Principal Barry C. Harris and Vice President David D. Smith. An extensive summary of the survey was submitted in November 1995 as an appendix to the testimony of Richard L. Scott (President and CEO, Columbia/HCA Healthcare) during the FTC's Global Hearings.