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Horizontal Merger Antitrust Enforcement:
Some Historical Perspectives, Some Current Observations

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Abstract

The DOJ-FTC Merger Guidelines were developed for and best deal with horizontal mergers where the theory of harm is “coordinated effects”. The Guidelines deal awkwardly, at best, with mergers where the theory of harm is “unilateral effects”. The broad body of evidence – from profitability studies, from pricing studies, and from auction studies – indicates that seller concentration matters. But these studies do not provide adequate guidance as to whether current antitrust enforcement is too strict or too lenient with respect to mergers. Research on the consequences of the “close call” mergers that were not challenged might well provide such guidance, as might a “meta analysis” of the extant price-concentration studies. New procedures are needed for inquiry and enforcement where the theory of harm is “unilateral effects”, as is a market definition paradigm for monopolization cases.

JEL Classification Numbers: K21, L41

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I. Introduction

The 1982 Merger Guidelines of the Antitrust Division of the U.S. Department of Justice (DOJ) -- which were subsequently modified in 1984, 1992, and 1997¹ -- continue to serve as the guiding document for antitrust merger enforcement at the DOJ and FTC. A discussion of the historical context in which the Guidelines were developed may serve as a useful element of this Roundtable discussion. I will then add my personal observations on what is known today about structure-performance relationships and the consequences for merger enforcement and conclude with some recommendations.

II. The Historical Context

The 1982 Guidelines were developed and promulgated under the leadership of William F. Baxter, who was appointed Assistant Attorney General for Antitrust in February 1981 and remained in that position through the end of 1983. Among Baxter's major goals was a reformulation of merger enforcement, which meant a scrapping of the 1968 Guidelines and the drafting of a completely new document.²

¹ They are now the Horizontal Merger Guidelines and bear the names of both the DOJ and the Federal Trade Commission (FTC). They can be accessed at: <http://www.usdoj.gov/atr/public/guidelines/hmg.htm>

² Other of Baxter's goals/strong beliefs included the position that unilaterally-imposed vertical restraints (such as resale price maintenance, territorial restraints, tying, etc.) were often in place because of efficiency considerations and thus ought not to be considered as per se violations of the Sherman Act; the belief that the Antitrust Division's Section 2 prosecution of IBM required a thorough review (after which he decided to abandon the case, announced in January 1982); and a belief that the Division's Section 2 suit against AT&T should be litigated "to the eyeballs" (Temin 1987, p.225), with the goal of vertically separating the regulated monopoly local wireline services from the actually or potentially competitive long distance services and equipment manufacturing (which he achieved through a settlement with AT&T, also announced in January 1982). Wider reflections on this era of antitrust enforcement can be found in White (2000).

The approach embodied in the 1982 Guidelines was essentially that of Stigler (1964): that implicitly coordinated behavior among oligopolistic sellers in concentrated markets was a genuine problem, and mergers that increased seller concentration in those markets could exacerbate this behavior; that a key element that could support or undermine coordinated behavior was the ability of the participants to monitor and police each other (and, as Stigler demonstrated, the Herfindahl-Hirschman Index [HHI] could be a proxy for that ability -- as well as being a more complete measure of seller concentration than is the four-firm concentration ratio); that ease of entry mattered; and that the structure of the buyers' side of the market mattered.

An immediate aspect of this approach should be noted: In today's analytic language, the original (1982) Guidelines' theory of harm from a merger was that of "coordinated effects" -- the enhanced ability of sellers (of either homogeneous or differentiated products) in the market generally and jointly to sell at higher prices. The other current theory of harm -- "unilateral effects" (which was introduced explicitly in the 1992 revision to the Guidelines), whereby the merger of two sellers of differentiated products can yield a post-merger increase in (only, or primarily) the merged firm's prices -- was not part of the "vision" of the 1982 Guidelines. Though the Guidelines did express a concern about mergers that would involve a post-merger seller that accounted for 35% or more of the market (regardless of the other HHI characteristics of the market and the merger), this concern was rooted in the idea of a "dominant firm and competitive fringe" (Stigler, 1965) rather than in today's notion of "unilateral effects".

Integral to the "coordinated effects" perspective was an appropriate delineation (or definition) of the market within which the post-merger coordinated exercise of market power could be manifested (or enhanced). The Guidelines' "hypothetical monopolist" or "SSNIP" test was a natural approach to this issue.³ In essence, it sought the smallest group of products over which the

³ As Werden (2003) has pointed out, Adelman (1959) appears to have been the originator of this approach to market definition.

post-merger sellers might be able to exercise market power through coordinated behavior; equivalently, it was the smallest group that could be monopolized.⁴ The subsequent steps in the Guidelines (measuring seller concentration and specifying trigger points for concern and greater scrutiny, examining other market characteristics, etc.) could then be used to indicate the likelihood that coordinated effects would occur (or be enhanced) post-merger in this specified market.

This market delineation paradigm can be used to delineate a market where the merging parties are selling differentiated products⁵ -- but its importance would still be for use in pursuing a "coordinated effects" theory of harm from the merger. In principle, the "unilateral effects" theory of harm doesn't require a market specification (and therefore doesn't require "market" shares or HHIs, etc.).⁶ Instead, it requires information primarily about the demand characteristics of the two merging firms' customers -- e.g., numbers and characteristics of the customers of the two merging sellers whose first and second choices are the products of the two merging firms,⁷ how elastic (or inelastic)

⁴ It is crucial to emphasize that this market definition paradigm is appropriate for merger enforcement and for prospective monopolization issues and that it cannot be used for market definition in monopolization cases where the defendant is accused of already exercising market power. See Nelson and White (2003) and White (2006).

⁵ For a hypothetical example, see Kwoka and White (2004, pp. 16-17).

⁶ See Werden and Rozanski (1994) and Kwoka (2004). This issue arises in Judge Walker's decision in Oracle. See U.S. v. Oracle Corporation, 331 F.Supp. 2d 1098, 1113-1123. Alternatively, one could salvage the Guidelines market delineation paradigm tautologically by declaring that when a sufficient number of customers are "trapped" between the two merging firms, such that the firms could exercise significant "unilateral effects" post-merger, then those products (or, if the unilateral effects are based on price discrimination, those products sold to those customers) constitute a relevant market.

⁷ The unilateral effects approach can also encompass the following scenario, which is similar to the "dominant firm and competitive fringe" model of Stigler (1965): The merging firms' customers might attempt to switch their demand to other firms, but those firms would experience rising marginal costs in selling to those additional customers and thus would reactively (and passively) raise their prices, which would discourage some of the customers from switching in the first place. For this scenario, information on the other firms' supply elasticities would be important.

their demands are, etc. -- and also information on the price-cost margins on the sales of the two firms' products to these customers and on whether the merging firms could effectively practice price discrimination toward their "strong preference" customers.⁸

The HHI trigger points of 1000 and 1800 corresponded approximately (in simple one-on-one cross-section correlations across four-digit SIC data) to four-firm concentration ratios of 50% and 70%, respectively.⁹ As of the early 1980s the body of the cross-section studies of profit rates regressed on seller concentration indicated that the relationship was positive; and some studies (e.g., White, 1976) that looked for a "critical concentration ratio" found it within or close to this range.

Other structural characteristics were harder to measure quantitatively and thus were acknowledged as important but requiring qualitative specification.

The possibilities of merger-related efficiencies were acknowledged; but then, as now, it was realized that such efficiencies were easy to promise but often were difficult actually to achieve post-merger (even if their promise was in good faith).

III. Some Current Observations on the Structure-Performance Relationship

At the center of antitrust enforcement with respect to mergers must be a belief that -- at some point -- seller concentration matters (for a coordinated effects theory of harm) and/or that a sufficient number of customers have sufficiently strong preferences for the two merging firms' products such that they are "trapped" between the two merging firms' products (for a unilateral effects theory of harm). It is the concentration-performance relationship that continues to be controversial¹⁰ and on

⁸ Of course, a finding of a significant unilateral effect, under any scenario, would have to surpass some "de minimus" hurdle in terms of the quantitative significance of the number of customers and magnitude of effects.

⁹ See Kwoka (1985).

¹⁰ Compare, for example, the discussions and summaries in Weiss (1971, 1974, 1989), Bresnahan

which I will comment here.

Through the mid 1980s the standard methodology for testing the structure-performance relationship was least-squares regressions on cross-sections of industry data, where the profitability of an industry was related to its structural characteristics, of which seller concentration was the variable of most interest. Through the mid 1970s these studies generally found a positive relationship. However, these studies were also coming under a rising tide of criticism¹¹ that, by the 1980s, led largely to their abandonment.¹² Among the criticisms were that seller concentration was not exogenous but was likely endogenous (i.e., seller concentration would likely respond to profitability, as well as profitability's being related to seller concentration); that a positive relationship between profitability and seller concentration might be due to economies of scale and efficiencies of large size rather than to the exercise of market power; that the national economic census (or FTC "Line-of-Business") data that were usually used for delineating "industries" need not coincide with actual markets; and that the accounting data that were the basis for the profit figures were badly flawed.¹³

Though some of these studies were indeed potentially susceptible to the problems described, the studies nevertheless displayed an interesting pattern that is worth noting: Starting initially from studies that showed simple one-on-one relationships between profitability and seller concentration,

(1989), Schmalensee (1989), Scherer and Ross (1990, Ch.11), Waldman and Jensen (2001, ch. 16), Martin (2002, ch. 7), Newmark (2004), Carlton and Perloff (2005, ch. 8), and Scott (2006).

¹¹ The publication of the surveys and critiques in Goldschmid et al. (1974) was probably the high-water mark for these profit-concentration studies but also an important vehicle for the rising wave of criticism.

¹² An interesting recent revival of a profitability study can be found in Slade (2004).

¹³ Carlton and Perloff (2005, pp. 249-252) identify eight "major problems" in using reported accounting data in these kinds of studies.

they were able to encompass an increasing array of variables that theory argued ought to be influencing industry profitability: barriers to entry (e.g., Comanor and Wilson, 1967; Collins and Preston, 1968, 1969; Weiss, 1971); advertising (e.g., Comanor and Wilson, 1967, 1974); foreign trade (e.g., Esposito and Esposito, 1971); the structure of the buyers' side of the market (e.g., Lustgarten, 1975); risk (e.g., Bothwell and Keeler, 1974); and the presence of a critical concentration ratio (e.g., White, 1976). Also, the decreasing explanatory power of these profitability cross-sections in the 1970s and early 1980s (e.g., Domowitz et al., 1986) may well have been the consequence of the widening of markets (because of reduced transportation costs and expanded international trade) and the deterioration of accounting (due, at least in part, to merger waves and the use of purchase accounting in mergers).

Consequently, while acknowledging these studies' potential problems, I am inclined to place some weight on this body of studies as indicating that seller concentration does matter and does show a positive (and causal) relationship with industry market.

Since the early 1980s these broad cross-section profitability studies have been supplanted by more narrowly focused studies of individual industries and by the use of prices (within an industry but across local markets) rather than profits (across industries) as the measure (the dependent variable) for which seller concentration may offer some explanatory power. Among the industries studied in these cross-sections have been: railroads; airlines; banking; cement; various categories of retailing; and livestock procurement.¹⁴ These studies too have found a positive relationship between seller concentration and price.

An additional source of empirical evidence has been studies of auction markets, where the number of bidders that show up at an auction is a reasonable proxy for the extent of competition for whatever is at auction. For example, the number of bidders that appear at a procurement auction

¹⁴ For collections of such studies, see Weiss (1989) and Audretsch and Siegfried (1992).

(i.e., one in which the bidders are competing on the price at which they will supply a product or service to the buyer, such as road building services for a state government) can be seen as the approximate equivalent of the number of sellers in a market. Auction theory (building on oligopoly theory) predicts that fewer bidders will mean higher prices in procurement auctions (and lower prices in auctions where the bidders are competing to buy an item); and the evidence again supports the predicted relationship (e.g. Brannman et al., 1987; Brannman and Klein, 1992).¹⁵

Accordingly, the broad sweep of evidence -- profits, prices, and auctions -- support the proposition that seller concentration matters. However, the relationship between seller concentration and market performance is unlikely to be linear; at "low" levels of seller concentration mergers are unlikely to generate harm, at "high" levels they are more likely to do so. What constitutes "low" and "high" is likely to vary from industry to industry, depending on such other structural variables as conditions of entry,¹⁶ the nature of the product, the buyers' side of the market, etc. Consequently (and unfortunately), these studies do not provide a precise guide for the concentration levels at which antitrust enforcement should bite.

IV. Conclusion and Recommendations

1. Seller concentration matters.¹⁷ That has to be at the heart of any antitrust merger enforcement. The empirical studies -- broadly based and broadly interpreted -- strongly support this conclusion. But the studies do not provide us with general guidance as to where antitrust

¹⁵ For general auction surveys, including empirical applications, see McAfee and McMillan (1987), Klemperer (2004), Milgrom (2004), and Hendricks and Porter (2005).

¹⁶ However, the survey of entry studies by Geroski (1995) yields cautionary warnings as to how much reliance antitrust should place on the power of entry generally to discipline market incumbents; see also Siegfried and Evans (1992, 1994).

¹⁷ Of course, if the potential problem is market power by buyers, then buyer concentration matters.

enforcement should bite and thus whether current enforcement practice is generally too lenient or too strict.¹⁸

There are, however, two lines of research that potentially could provide such guidance. First, since successful antitrust challenges to mergers mean that we will never know the "counterfactual" with respect to those mergers, we cannot learn from the merger challenge data alone (e.g., from the recently released FTC/DOJ and FTC data on merger challenges) whether policy is too lenient or too strict. But studies of post-merger pricing in the markets of the mergers that were allowed to proceed -- especially those mergers that were "close" to the possibility of an antitrust challenge, as evidenced by "second requests" by the enforcement agencies for additional data from the merging parties -- should yield useful information. If these "close call" mergers yielded little or no post-merger upward price consequences (controlling for other things), then merger policy has likely been too strict; if they yielded significant post-merger price increases, then policy has been too lenient.

Second, an attempt should be made at a "meta analysis" of all of the extant price-concentration studies, to see if some global conclusions can be distilled from the aggregation of these studies.

2. The Merger Guidelines' basic approach remains a useful guide for structuring antitrust inquiry and enforcement when the theory of harm is "coordinated effects". But the Guidelines' approach is far less useful for structuring an inquiry when the theory of harm from a merger is "unilateral effects". The enforcement agencies need to acknowledge this dichotomy clearly and

¹⁸ It has been well known -- for almost two decades (see Leddy, 1986) -- that actual enforcement trigger levels are generally well above the HHI levels of 1000 and 1800 that have been specified in the Guidelines. The recently released FTC-DOJ data on merger challenges for the years 1999-2003 (FTC-DOJ, 2003) and the FTC data for 1996-2003 (FTC, 2004) strongly confirm this pattern. See, for example, Kwoka (2004), Coate (2005), and Coate and Ulrick (2005).

straightforwardly -- at the time of the next formal revision of the Guidelines, if not sooner – and they need to develop an alternative set of procedures for inquiry and enforcement when the theory of harm from a merger is “unilateral effects” .

3. The market delineation paradigm of the Guidelines works well for coordinated effects merger inquiries. But it is inappropriate for most monopolization inquiries. Indeed, the general issue of an appropriate paradigm for monopolization inquiries remains a pressing issue for antitrust enforcement (Nelson and White, 2003; White, 2006). Again, the enforcement agencies need to acknowledge this problem clearly and straightforwardly, and they need to focus their best minds on trying to remedy it.

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