THE ROLE OF THE ECONOMIST/ECONOMICS IN "PROVING" COORDINATED EFFECTS

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I. INTRODUCTION

It is a great honor to be participating in a panel of such esteemed speakers addressing central issues in antitrust. I have been asked to focus my remarks on the role that economists and economics play in the assessment of coordinated interaction, most particularly, the role in "proving" or demonstrating coordinated effects. In addressing this role, I start where many do: with an examination of the context in which the issue arises and the antitrust question that has been raised.

Particularly since the issuance of the 1992 *Horizontal Merger Guidelines*,[1] economists have frequently been called upon in merger reviews to assess "whether the merger is likely to create or enhance market power or to facilitate its

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[1] U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, 1992 HORIZONTAL MERGER GUIDELINES (1992) [hereinafter MERGER GUIDELINES] *available at* http://www.usdoj.gov/atr/public/guidelines/horiz_book/toc.html.

exercise."[2] The *Guidelines* expressly set out two theories by which mergers may create adverse competitive effects—by increasing a firm's ability to engage in either unilateral[3] or coordinated interaction[4]—and present in some detail the analytical principles relevant for reviewing potential anticompetitive effects.[5] Economists are also called upon at times to assess whether particular business practices "facilitate" or enhance coordination when used by industry/market participants. A third, but somewhat less frequent role of the economist in assessing coordinated effects arises in litigation over both tacit and explicit collusion, and there has been considerable debate concerning the specific contribution that economists can make in litigation alleging explicit collusion.[6] In each of the above roles, the economist is called upon to set out a credible theory of the competitive dynamics and conditions in the industry and to examine and apply those theories on a principled basis—whether in testimony or in an agency setting—to the pertinent facts.

My remarks address these roles and highlight the substantial influence of the 1992 *Merger Guidelines* in the evolution of the roles of the economist and the economics of "proving" coordinated effects. The application and extension of the coordinated effects analysis set out in the *Merger Guidelines* to a wide variety of contexts are used here to evaluate the contributions made by economists and economics in the assessment and "proof" of the likelihood of coordinated effects.

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[2] *Id.* § 0.2.

[3] *Id.* § 2.2.

[4] *Id.* § 2.1.

[5] *Id.*

[6] *See, e.g.,* Gregory J. Werden, *Economic Evidence on the Existence of Collusion: Reconciling Antitrust Law with Oligopoly Theory*, 71 ANTITRUST L.J. 719 (2004).

II. THE *MERGER GUIDELINES* AND THE COORDINATED EFFECTS PARADIGM

A. Background

The means of "proving" or demonstrating the likelihood of coordinated actions has evolved significantly since the issuance of the *Merger Guidelines* in 1992. As part of its analytical framework, the *Guidelines* set forth certain market conditions that were believed to substantially increase the potential likelihood of coordinated interaction among firms.[7] This framework includes an assessment of factors likely to facilitate coordination such as heterogeneity of product and of firm attributes,[8] as well as factors affecting the coordinating firms' ability to detect deviation from the "coordinated arrangement" and to impose credible punishment on firms that deviate from an arrangement.[9]

The starting point for application of the *Guidelines'* coordinated effects framework is a situation in which the proposed merger would further concentrate an already highly-concentrated market such that there is the potential that post-merger the likelihood of coordination could increase.[10] The framework as set out in the *Guidelines* can be considered a "checklist" of factors for consideration[11] or, more broadly and completely, as analytical tools and empirical tests building on oligopoly models to focus attention and analysis on the competitive dynamics of the industry and the complexities that may be involved in any particular merger case.

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[7] MERGER GUIDELINES, *supra* note 1, § 2.1.

[8] *See id.* § 2.11.

[9] *See id.* § 2.12.

[10] *See id.* § 1.5.

[11] Many have criticized a rote application of the principles as a checklist for determining whether a particular merger results in an increased likelihood of coordinated effects. *See, e.g.*, David Scheffman, Potential Non-Unilateral Effects From a Merger, Presentation at FTC/DOJ Joint Workshop on Merger Enforcement (Feb. 2004), *available at* http://www.usdoj.gov/atr/public/workshops/docs/202661a.htm.

In understanding the influence of the *Merger Guidelines* on coordinated effects analysis, it is important to consider their articulation of certain analytical principles with respect to market definition as part of that analysis. The development of the hypothetical-monopolist paradigm as part of the market definition exercise and the extensive literature on this issue,[12] for example, sharpened the analysis of market definition, particularly on the issue of the empirical estimation of the sufficiency of diversion of sales to alternative products and suppliers. This in turn, has resulted in a focus in both Agency investigations and in litigation on the mechanism by which sales would be diverted, thereby providing greater insights into the nature of competitive interactions among market participants, both suppliers and consumers.

The market definition exercise also focuses the economics specifically on the relevant terms of competition—for example, list price, discounting, contract terms, and customized contracts—which provide insights into the likely focal points of coordination and the ease or difficulty with which it can be achieved.[13] Similarly, the market definition exercise and the estimation of market shares typically involves an assessment of relevant firm costs and capacity, which are pertinent to the assessment of incentives for coordination and the ease or likelihood of profitable deviation.[14]

B. Competitive Dynamics and Mechanisms

The emphasis on the use of the coordinated effects analysis as a *dynamic* framework subject to empirical testing has beneficially influenced the recent evolution of thinking on application of the concepts of coordinated effects to merger cases. A September 2001 roundtable of economists,

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[12] *See* MERGER GUIDELINES, *supra* note 1, § 1.

[13] *See id.* §§ 1.0-1.2, 2.1.

[14] *See id.* § 1.4; Gregory J. Werden, *The 1982 Merger Guidelines and the Ascent of the Hypothetical Monopolist Paradigm*, 71 ANTITRUST L.J. 253 (2003).

for example, highlighted the fact that more attention needed to be paid to understanding the competitive dynamics of an industry and the mechanisms by which a particular merger would be likely to change that competitive dynamic.[15]

This increased emphasis on understanding the dynamics of competition and profitable strategies pre- and post-merger has resulted in a renewed focus on the oligopoly models underlying the coordinated effects framework. While there had been extensive literature on these models,[16] the more recent writings have tended to focus more closely on whether certain changes to the pre-merger competitive dynamic would predictably result in a less competitive post-merger market.[17] One strain of this literature deals with the relevance of a "maverick" in a particular industry and the implications that either the elimination or continuing presence of such a firm presents for assessing the likelihood of coordinated interaction.[18] Such an analysis takes into consideration the competitive dynamic of a given industry and examines into the incentives and abilities of firms to be disruptive of coordination.[19]

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[15] Fed. Trade Comm'n Empirical Industrial Organization Roundtable, (Sept. 11, 2001), *at* http://www.ftc.gov/be/empiricalioroundtable transcript.pdf.

[16] *See, e.g.*, 1 RICHARD SCHMALENSEE & ROBERT D. WILLIG, HANDBOOK OF INDUS. ORG., chs. 6 & 7; George J. Stigler, *A Theory of Oligopoly*, 71 J. POL. ECON. 44 (1964).

[17] *See, e.g.*, Luke M. Froeb, Director, Fed. Trade Comm'n Bureau of Econ., The Use of Economics in Merger Analysis, Address at the IBC Conference: The Use of Economics in Competition Law, (Jan. 27, 2005), *available at* http://www.ftc.gov/speeches/froeb/050127ibcbrussels1.pdf; Andrew R. Dick, *Coordinated Interaction: Pre-Merger Constraints and Post-Merger Effects*, 12 GEO. MASON L. REV. 65 (2003); Werden, *supra* note 6; Marc Ivaldi, et al., *The Economics of Tacit Collusion*, Final Report for DG Compeition, European Commission IDEI, Toulouse (2003), *available at* http://europa.eu.int/comm/competition/mergers/review/the_economics_of_tacit_collusion_en.pdf.

[18] *See, e.g.*, Jonathan B. Baker, *Mavericks, Mergers and Exclusion: Providing Coordinated Competitive Effects Under the Antitrust Laws*, 77 N.Y.U. L. REV. 135 (2002).

[19] *See id.*

Other literature focuses specifically on the mechanisms that could be deployed to achieve coordinated interaction in an otherwise "uncoordinated oligopoly." For example, the *Airline Tariff Publishing* case brought by the Department of Justice in the early 1990s against the major U.S. airlines and their jointly owned fare database, Airline Tariff Publishing Co., alleged that the use of "footnoting" certain fares allowed price coordination among carriers in numerous markets.[20] Recent merger reviews such as the *Cruise Lines Merger* investigation[21] provide case studies in which agency and outside economists tested market conditions and factors concerning competitive strategies, price volatility, costs, and capacity to assess the likelihood that specific mechanisms could profitably be deployed to increase coordinated interaction.

A number of recent papers, including work by Gregory Werden and Marc Ivaldi and their co-authors, provide a summary of the recent literature on coordinated interaction analysis in the United States and internationally, particularly in the context of merger review.[22] Professor Ivaldi provides a much-expanded framework or "checklist" for consideration of the incentives and abilities of firms to achieve "collusive" or coordinated outcomes.[23] The framework he and his co-authors articulate focuses on the factors that either facilitate or impede firms' abilities to gain and sustain profits from coordinated interaction predictably.[24] The paper adds to the framework in the *Merger Guidelines* and extends it in greater detail and

[20] *See* DOJ Complaint at ¶ 21, United States v. Airline Tariff Publishing Co., 836 F. Supp. 9 (D.D.C. 1993), *available at* http://www.usdoj.gov/atr/cases/f4700/4796.pdf.

[21] *See* FED. TRADE COMM'N BUR. OF ECON., CRUISE INVESTIGATION: EMPIRICAL ECONOMIC & FINANCIAL ANALYSES, *available at* http://www.ftc.gov/be/hilites/ftcbeababrownbag.pdf, as well as the sources therein.

[22] Froeb, *supra* note 17; Dick, *supra* note 17; Werden, *supra* note 6; Ivaldi et al., *supra* note 17.

[23] *See* Ivaldi, *supra* note 17, at 11-57.

[24] *Id.*

nuance along the lines of recent literature. The Werden article is of particular interest in that it accepts many of the roles that economists can play but questions the role that they can play in cases of express collusion, setting out the importance of linking economic testimony and analysis to the underlying oligopoly models.[25]

One of the developments contributing to the movement from the simpler "checklist" to fuller analyses in investigations (e.g. *Cruise Lines*[26]) and, to some extent, in litigations (e.g. *Arch Coal*[27]) is an expanded perspective on price transparency. The concept of price transparency or transparency of the terms of competition (e.g., contract provisions and non-price dimensions) has been a central part of the *Merger Guidelines*' framework and has been given an emphasized role in both the competitive analysis of transactions and in the recent literature.

There are two major strains within this literature. The first assesses the implications of a merger that increases the transparency of pricing or terms of competition sufficiently such that the merger predictably would lead to an increased likelihood of coordinated interaction.[28] A second strain moves beyond transparency to examine whether the nature of pricing outcomes, which are a result of firm and consumer decisions in a marketplace, is such that even individual firms can reliably predict outcomes and pricing.[29] The latter strain captures the phenomenon of industries subject to rapid change, whether in technology, in product demand, or in evolution of business strategies that makes it difficult for

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[25] *See* Werden, *supra* note 6, Section IV, "Admissibility of Economic Testimony on the Existence of Collusion."

[26] *See* casefile, *In re* Royal Caribbean Cruises, Ltd./P&O Princess Cruises plc & Carnival Corporation/P&O Princess Cruises plc, *available at* http://www.ftc.gov/os/caselist/0210041.htm.

[27] FTC v. Arch Coal, Inc., 329 F. Supp. 2d 109 (D.D.C. 2004).

[28] *See, e.g.*, Dick, *supra* note 17.

[29] *See* Susan Athey & Kyle Bagwell, Collusion with Persistent Cost Shocks (May 2004) (unpublished manuscript, *available at* http://www.nhh.no/sam/ stabssem/2004/bagwell.pdf).

even the individual firm—much less a group of firms—to coordinate on pricing and competitive strategies. This likely will be an area in which there will be increased efforts to test the models and market conditions empirically to ascertain whether conditions are conducive to coordinated interaction.[30]

C. Empirical Tests of Coordinated Effects

Another major development evolving from the *Merger Guidelines* and from increased litigation and merger review is the expanded effort to develop empirical tests to determine the likelihood of post-merger coordination and to extend the basic paradigm of price and output coordination to include more rigorous analysis. Development and application of such tests, as was done in the FTC investigation of mergers in the cruise line industry, focused on empirical assessments of both price and output coordination.[31] In particular, efforts to determine the likelihood of price coordination focused on assessing price transparency as well as looking at the predictability of observed pre-merger prices as means of examining the likelihood of achieving and monitoring coordination of post-merger prices.[32] Assessment of output coordination entailed examination of the profitability and sustainability of various output-reducing actions and empirical tests of many aspects of business strategies.[33]

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[30] *See generally id.*

[31] *See* Mary T. Coleman et al., *Economic Analyses of Mergers at the FTC: The Cruise Ships Mergers Investigation*, 23 REV. INDUS. ORG. 121 (2003); David T. Scheffman & Mary Coleman, Quantitative Analyses of Potential Effects from a Merger, *available at* http://www.ftc.gov/bc/mergerenforce/presentations/040218scheffman02.pdf; David Scheffman, Potential "Non-Unilateral" Effects from a Merger, Presentation to LECG and Owen Graduate School of Management, Vanderbilt University (February 2004), *available at* http://www.ftc.gov/bc/mergerenforce/presentations/040218scheffman.pdf.

[32] *See* Scheffman & Coleman, *supra* note 31, at 13-21; *see generally* Coleman et al., *supra* note 31; Scheffman, *supra* note 11.

[33] *See, e.g.,* Coleman et al., *supra* note 31.

Increased empirical work that started with market definition has extended into coordinated effects analysis with the application of the concepts of Critical Loss and Critical Elasticity. These applications have analyzed firms' profit maximization strategies and whether there is sufficient diversion of sales to others to make a specific pricing or other action unprofitable.[34] One catalyst for increased empirical work has been the extensive empirical analyses of unilateral effects undertaken by economists in agency merger reviews and litigation. Empirical estimation is also the culmination of the extensive application of the *Merger Guidelines'* framework to many mergers, with many opportunities to assess empirically the key competitive dynamics in specific industries in the context of specific markets for specific products, suppliers, and consumers and an understanding of the factors that shape these dynamics. Estimation is increasingly focused on the factors that drive the profitability of specific actions as well as the likelihood that market participants can achieve specific outcomes based on available data and information.

The economist is engaged in this process of assessing coordinated effects at many stages, from the formation of theories, academic research on specific models, efforts to capture and test empirically the complexities of a given industry and its competitive dynamics, to dialogue within and between agency and outside economists, and to expert testimony in the courtroom subject to the principles set out in *Daubert*.[35]

[34] *See, e.g.,* David T. Scheffman & Joseph J. Simons, *The State of Critical Loss Analysis: Let's Make Sure We Understand the Whole Story*, The Antitrust Source, November 2003, *at* http://www.abanet.org/antitrust/source/11-03/scheffman.pdf; Michael Katz & Carl Shapiro, *Critical Loss: Let's Tell the Whole Story*, ANTITRUST, Spring 2003 at 49; Daniel P. O'Brien & Abraham L. Wickelgren, *A Critical Analysis of Critical Loss Analysis*, 71 ANTITRUST L.J. 161 (2003); James Langefeld & Wenqing Li, *Critical Loss Analysis in Evaluating Mergers*, 46 ANTITRUST BULL. 299 (2001).

[35] Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993).

III. CONCLUSION

This summary of developments in the role of economists has focused on situations in which that role has become generally accepted, if not expected, and in which the challenge for economists is to continue to expand the theories, the models, and particularly the qualitative and quantitative analyses to address more fully the complexities of many industry contexts. While some have raised issues regarding the specific contributions that economists can make in situations involving express collusion, the literature and research on cartel behavior in and of itself may provide potential insights into the mechanisms employed in successful and enduring cartels and the firm and industry contexts in which collusion has been achieved and maintained.[36]

It is an exciting time to be involved in the application of microeconomics to antitrust matters—both merger and non-merger—with an expanding tool kit of empirical and theoretical analyses embedded in a framework far evolved from simple checklists for understanding—or attempting to understand—the results of dynamic competition in a wide variety of industries.

[36] Margaret C. Levenstein & Valerie Y. Suslow, What Determines Cartel Success?, University of Michigan Business School Working Paper No. 02-001 (2002), *available at* http://ssrn.com/abstract=299415.