

# Current Economic Issues at the FTC<sup>1</sup>

David T. Scheffman and Mary T. Coleman<sup>2</sup>

## I. Overview of the Bureau of Economics of the Federal Trade Commission

The Bureau of Economics (“BE”) of the Federal Trade Commission is probably among the largest “industrial organization economics departments” in the world. BE has approximately 70 Ph.D. economists. The economists work on antitrust and consumer protection investigations and litigation, on FTC submissions to regulatory authorities and state governments that advocate application of sound competition-based and consumer protection principles, and conduct research on antitrust and consumer protection issues. BE has a long distinguished history of publishing research reports, and working papers, and many BE economists have published their research in economics journals and books. From its inception, the FTC has as part of its mandate to conduct investigations and research relevant to its antitrust and consumer protection mission. For example, early FTC studies were important inputs into crafting the Packers and Stockyards Act.

The FTC is a small agency (about 1000 employees), and most of the professionals are lawyers (more than 450). The FTC, and particularly BE, have shrunk since the early 1980s. Until the mid-1980s, BE had a division of economists whose primary task was to conduct research. The shrinking of BE and the demands for economist support for the FTC’s mission, particularly the review of mergers, has substantially reduced the resources devoted to research. Nonetheless, BE is on the cutting edge (along with its economist colleagues at the Department of Justice Antitrust Division) of the theory and application of industrial organization economics to antitrust issues and the economics of consumer protection enforcement and regulation. FTC economists produce working papers,<sup>3</sup> FTC staff studies, and regularly publish their research in academic journals.

## II. The State of the Industrial Organization Economics

Industrial organization (“I.O.”) theory has developed very substantially over the past approximately 25 years. A discipline that long was very empirically-oriented was transformed into one that was a major

---

<sup>1</sup> Forthcoming, *Review of Industrial Organization*

<sup>2</sup> Dr. Scheffman is the Director of the Bureau of Economics at the Federal Trade Commission. Dr. Coleman is the Deputy Director for Antitrust in the Bureau of Economics at the Federal Trade Commission. The views and opinions expressed in this paper are those of the authors and are not necessarily those of the Commission or any individual Commissioner. We thank Elizabeth Schneirov for helpful comments.

<sup>3</sup> The FTC web site provides links and abstracts to working papers going back to 1996 (<http://www.ftc.gov/be/econwork.htm>).

focus of theoretical economists. Obviously, the discipline has advanced from greater development of theory. However, while empirical research has also burgeoned, empirical research has been a distant follower to theory. In part, this is likely because the publicly available data required to conduct research on, for example, issues relevant to antitrust policy, is generally very limited. For example, data on market shares or prices (actual transactions prices) is not publicly available for most industries. Thus, unlike decades ago when empirical research framed theoretical issues, theory has far outstripped a solid underpinning of empirical research. Beyond the limitations of the body of empirical research, in our view, industrial organization theory has proceeded to some extent without sufficient understanding of institutional and other “real world” factors that are typically critical in the application of theory to specific situations. This has to some extent been responsible for the creation of a body of theory much of which is often not readily applicable by economists (or lawyers) working on antitrust investigations.

In the 1950s and 1960s, “industry studies” were a major strand of I.O. economics research. These studies, which included rich institutional and other real world detail along with whatever data were available, provided I.O. researchers and practitioners with a factual background for the development of theory and more advance empirical research. Industry studies are largely no longer in vogue. However, in antitrust investigations, BE economists regular conduct the equivalent of “modern” industry studies, with the advantage of having access to all sorts of confidential information and data. As part of their job, BE economists have to read and interpret documents, and participate in interviews and depositions. They work to interpret and analyze the rich confidential data that is typically available in antitrust investigations. Unfortunately, most of the work of BE (and DOJ) economists cannot be made public.

In September of 2001 BE hosted a “Roundtable” of some of the leading industrial organization economists in the U.S. This Roundtable was organized by BE and Dennis Carlton.<sup>4</sup> The focus of the Roundtable was the current state of empirical research relevant to antitrust policy and suggestions of empirical research topics that might advance the state of knowledge and contribute meaningfully to antitrust policy. The transcript of this Roundtable is available on BE’s web page, and is recommended reading for economists interested in the application of economics to antitrust.<sup>5</sup> The BE web site (<http://www.ftc.gov/ftc/economic.htm>) has a number of postings that are likely to be of interest to economists. For example, a recent BE paper reviews economics aspects of the past 20 years of merger review at the FTC.

### **III. The Challenge for BE Economists**

Although BE has access to information and data that an outside researcher seldom would have, I.O.

---

<sup>4</sup> The Empirical Industrial Organization Roundtable was moderated by BE Director David Scheffman and the participants were Dennis Carton, Jerry Hausman, Ben Klein, Janusz Ordover, Richard Schmalensee, and Michael Whinston.

<sup>5</sup> <http://www.ftc.gov/be/empiricalioroundtabletranscript.pdf>.

economics does not provide much guidance on useful analyses of real world data in the specific context of an antitrust investigation. Consider, for example, the lion's share of our activities, *i.e.*, analysis of horizontal mergers. What are the empirical analyses relevant to a determination whether a particular merger is likely to be anticompetitive? In some industries (*e.g.*, grocery products sold primarily in supermarkets for which scanner data may be available) considerable advances have been made in recent years in estimating own- and cross-price elasticities, which are clearly relevant to market definition and competitive effects analysis. (We will discuss these analyses in more detail below). A literature has developed focusing on applying one-shot Bertrand models, using the estimated demand parameters from scanner data analysis. This literature is at an early stage and its reliability for assessing the competitive effects of mergers has probably not been sufficiently tested. In most antitrust investigations, however, we usually do not have data that would permit the estimation of demand or competitor strategies (crudely speaking "reaction functions") so that we could estimate and apply an oligopoly model that is sufficiently reliable to be a significant factor in the bottom line real world decision the FTC must make, *i.e.*, should this specific merger be challenged or not?

The challenge of economic analysis in antitrust investigations is to develop empirical analyses that can shed light on market definition, competitive effects, barriers-to-entry, and efficiencies. BE economists must use messy real world data and sufficiently understand the nature and implications of important institutional features. Much of the work does not involve formal modeling. Rather in investigations, we consider what models appear applicable to the industry at issue and then analyze many kinds of evidence (in particular empirical evidence) that provide information on what demand and competitor strategies are likely to be to assess what is the likely outcome of the merger.

#### **IV. Recent Developments and "Hot Issues" in BE**

In the past year, BE has begun a systematic analysis of the sorts of empirical analyses that can be usefully employed in antitrust investigations, including as part of this process, as discussed above a "Roundtable" of some of the leading industrial organization economists in the U.S. We hope to put out a working paper during 2003 summarizing the results of our analysis.

In the remainder of this paper, we will discuss eight specific areas where BE has focused in the past year including: (1) unilateral effects; (2) coordinated effects; (3) merger retrospectives; (4) "natural experiments;" (5) price discrimination; (6) intellectual property and antitrust; (7) health care; and (8) energy. For each area, we will discuss the issues that have been considered, the work that has been and is being done to address these issues, and the types of additional research (by the agencies, academia or private consultants) that would be useful.

## A. Unilateral Effects Analysis in Merger Cases

In the past decade, “unilateral anticompetitive effects” theories have been an increasingly important focus of merger investigations at the FTC (and at DOJ). The increasing emphasis on unilateral effects arises from the 1992 *Horizontal Merger Guidelines*,<sup>6</sup> in which the economics content of the Merger Guidelines was substantially enhanced, due to the efforts of Robert Willig, DOJ and FTC economists, and a number of outside economists. As explained by the *Guidelines*, unilateral competitive effects from a merger can occur because “the merging firms may find it profitable to alter their behavior unilaterally following the acquisition by elevating price and suppressing output,”<sup>7</sup> with, in some circumstances, an anticompetitive effect. The *Guidelines* go on further to say that such effects may occur in differentiated product markets where the merging firms are particularly close substitutes and thus the merger may provide the merged firm with the incentive to raise price on the products sold by one or both of the merging parties.<sup>8</sup> The basic underpinnings of the potential for such effects come from economic models of Bertrand competition with differentiated products. The potential for such effects depends crucially on to what extent the products at issue are close substitutes, the likelihood that customers would switch to other products in the event of a price increase and the ease with which competitors could reposition their products.<sup>9</sup>

### 1. Demand Estimation

Determining whether the products of the merging firms are close substitutes (and what other close substitutes exist) is a crucial element of unilateral effects analysis. The question then arises as to what types of evidence can be brought to bear on this issue. For an economist, the obvious answer is to try to estimate, if feasible, own and cross price elasticities of demand. Lack of suitable data in most industries makes estimation of demand not feasible. However, for consumer products, scanner data provides (aggregate) measures of prices and quantities (at *retail*), and economists have used these data

---

<sup>6</sup> 1992 *Horizontal Merger Guidelines*, [with April 8, 1997 revisions to Section 4 on Efficiencies], Issued by the U.S. Department of Justice and the Federal Trade Commission, <http://www.ftc.gov/bc/docs/horizmer.htm>.

<sup>7</sup> See *Horizontal Merger Guidelines*, Section 2.2.

<sup>8</sup> See *Horizontal Merger Guidelines*, Section 2.21. Unilateral effects may also occur in markets where firms are distinguished primarily by their capacities and the merged firm would have sufficient capacity after the transaction that it would be in its interest to unilaterally reduce output and raise prices. The potential for such effects is based on dominant firm models and the potential for such effects depends heavily on the ability of competitors to expand output and thus capture enough customers to make a unilateral price increase unprofitable. We focus on differentiated product markets here because much of the empirical work associated with unilateral effects in the past decade has focused on such industries.

<sup>9</sup> Unilateral effects analysis was a major topic at the Empirical Industrial Organization. Roundtable.

to estimate own and cross elasticities of demand.

While the quantitative estimation of demand relationships can make substantial contributions to merger analysis, it is much like every other area of empirical economics, in that practitioners invariably are forced to confront and resolve a series of difficult econometric and conceptual issues. In a recent BE Working Paper,<sup>10</sup> the authors identify a number of econometric and conceptual issues that they believe researchers and practitioners should try to address to improve the reliability of estimates of demand using scanner data and to provide a sounder foundation for the usefulness of such analyses in merger investigations.

The paper identifies five types of issues:

- C What are the potential problems arising from aggregation of transactions data over time and space?
- C What are the theoretical and econometric issues in specifying the functional form for estimation of demand?
- C Is endogeneity of price a significant issue, and if so how should it be addressed?
- C How can standard errors of estimates be reliably estimated from a multi-level non-linear model?
- C What is the relationship between estimates of demand at the retail level and demand at the manufacturer level (the latter is the level of the investigated merger)?<sup>11</sup>

The paper does not address whether the conventional practice of using a static Bertrand oligopoly model to analyze these unilateral pricing incentives provides an appropriate benchmark for predicting the consequences of a horizontal merger. The use of these models is somewhat controversial, both in the literature (see, e.g., Fisher (1989) and Shapiro (1989)), and in the agencies. However the paper does note the recent appearance of empirical research that attempt to test the validity of static oligopoly models (e.g., Nevo (2001); Pinske and Slade (2001); Hausman and Leonard (2000); Genesove and Mullin (1998); Wolfram (1999)).

---

<sup>10</sup> Daniel Hosken, Daniel O'Brien, David Scheffman, and Michael Vita, "Demand System Estimation and its Application to Horizontal Merger Analysis," <http://www.ftc.gov/be/workpapers/wp246.pdf>

<sup>11</sup> Pricing at both retail and wholesale for "grocery" products is actually quite complicated. At retail there are coupons and "sales" that may create problems for the reliable estimation of demand elasticities. At wholesale, grocery manufacturers make various payments for shelf space and promotional activities, and there are complex volume and promotional discounts.

## **2. Empirical Analyses Bearing on Unilateral Effects - Beyond Demand Estimation**

BE has long been involved in developing empirical analyses addressing unilateral effects. As noted, in many industries, estimation of demand systems is not feasible. Even where such estimation is feasible, there are many other factors that will also be important to assessing the likely competitive effects of a transaction.<sup>12</sup> Additional empirical analyses may be statistical or descriptive in nature. We discuss below some of the empirical analyses that we employ in unilateral effects cases. We believe that additional research and thinking about what types of analyses would be most useful would be very valuable.

### **a. Customer Level Information**

Market research that has been conducted by or for the parties to a proposed merger can provide important evidence bearing on the extent to closeness of competition between the merging parties. If information is available, the extent to which customers' shift all or part of their volume among suppliers can be used to assess whether certain competitors appear to be closer substitutes than others. There is a very substantial body of literature in the marketing literature that is relevant to assessing core issues such as developing empirical analyses bearing on own- and cross-price elasticities, *etc.* BE is devoting resources to gain a better understanding of the marketing literature and its potential application to antitrust investigations (both for unilateral effects analyses, and generally). We believe that research exploiting the interface between economics and marketing could be a fertile area.<sup>13</sup>

### **b. Evidence on Competition Between Manufacturers**

As noted above, estimates from scanner data provide, at best, reliable estimates of demand at retail. But the purpose of such analyses is to determine whether a merger of manufacturers is likely to be anticompetitive. BE is devoting considerably more efforts to analyzing data and other evidence bearing on competition at the manufacturer level. This involves examining the details of manufacturer pricing, advertising and promotional activities, and new product development.

## **B. Coordinated Effects**

Unlike the techniques that have been developed on unilateral effects, far less progress has been made in developing implementable empirical analyses relevant to assessing whether coordinated effects are

---

<sup>12</sup> This was a point of consensus of the participants in the Empirical Industrial Organization Roundtable.

<sup>13</sup> It is of interest to note that Mary Sullivan, a Ph.D. economist who formerly taught marketing at the University of Chicago and who has authored a number of important papers in the area of economics and marketing is an Acting Assistant Chief in the Economic Analysis Group of the Antitrust Division.

likely to be created or enhanced as a result of a specific merger. While unilateral effects appeared to receive the most emphasis from the agencies when reviewing mergers in recent years, the potential for coordinated effects is currently regaining importance at the antitrust agencies.<sup>14</sup> Given the renewed focus on coordinated effects, it is important to develop a greater understanding of when a coordinated effects theory is relevant for a merger and what types of analyses are useful in identifying such instances.

Traditionally, antitrust analysis of coordinated effects of mergers has focused first on whether the post merger market is concentrated and whether the merger causes a significant change in concentration levels. Coordinated effects are then assumed feasible if the industry exhibits characteristics that are seen as conducive to coordinated outcomes. This “checklist” of characteristics is based on what has come to be called the “factors facilitating coordination or collusion” first advanced Stigler’s “A Theory of Oligopoly”,<sup>15</sup> (and later memorialized by Posner and regularly used in antitrust investigations and litigation). BE’s experience is that such checklists are too crude to provide much assistance in determining whether a coordinated interaction theory is relevant. Specifically, many industries that fit the checklist do not appear to exhibit outcomes that are consistent with coordinated interaction.

In recent work,<sup>16</sup> we propose a more empirical approach to the analysis of coordinated effects. In a merger investigation, a vast body of data and information is available, and a detailed empirical analysis of the actual competition in the market can be performed to determine if there is a basis for believing that coordinated interaction is present and shed light on whether coordinated interaction is likely to be strengthened or “created” as a result of the merger. In the paper, we identify analyses useful for the determination of whether actual outcomes and characteristics of pricing and competition in the market are consistent with the existence of coordinated interaction pre-merger. If so, we propose that there would be a rebuttable presumption that a merger would make it more likely that anticompetitive coordinated interaction would occur or would be more sustainable or effective, as it would reduce the number of players who have to come to an agreement and may reduce some of the uncertainty and differences in strategies that would make an agreement less effective or sustainable. If detailed empirical analyses of actual competition along the lines we propose do not support a conclusion that some form of coordinated interaction is present, then it is necessary to explain why the merger is likely

---

<sup>14</sup> Analysis of “collective dominance” has been a major issue for merger enforcement by the EU competition authority, particularly because of the *AirTours* matter. The Commission decision on this matter is at [http://europa.eu.int/comm/competition/mergers/cases/decisions/m1524\\_en.pdf](http://europa.eu.int/comm/competition/mergers/cases/decisions/m1524_en.pdf) , and the Judgment of the Court of First Instance is at <http://curia.eu.int/jurisp/cgi-bin/form.pl?lang=en&Submit=Submit&docrequire=alldocs&numaff=T-342%2F99&datefs=&datefe=&nomusuel=&domaine=&mots=&resmax=100> .

<sup>15</sup> George Stigler (1964) “A Theory of Oligopoly,” *Journal of Political Economy*, 72, 44-61.

<sup>16</sup> David Scheffman, Mary Coleman, and Andrew Baziliauskas, “Empirical Tools for the Analysis of Coordinated interaction Effects from Mergers and Acquisitions”, (July 2002), forthcoming as a BE Working Paper.

to change this outcome. It may be that the merger removes a competitive maverick who has disrupted the ability to reach a coordinated outcome (or likely changes the incentives of the competitive maverick),<sup>17</sup> or that the merger results in such a small number of players (such as three competitors going to two) that reaching a coordinated agreement becomes substantially more feasible.

The paper presents a discussion of examples of the types of empirical analyses that can be performed in a merger investigation to assess the transparency of market outcomes and to find evidence of actual coordination. Transparency of market outcomes is crucial to the ability of firms to coordinate (particularly to tacitly coordinate). Without such transparency, it would be difficult for firms to reach agreement on the levels of price (or capacity) that they wish to achieve or to observe deviations from such pricing. Analyses to address these issues include (1) the degree of non-systematic variation in price levels and changes across customers; (2) the degree of pricing variation across suppliers for the same customers; and (3) the quality of information the suppliers' have regarding competitor sales and pricing.

Additionally, if coordinated behavior is occurring, certain outcomes should be readily observed. For example, in the price leadership model, one would anticipate finding one firm generally leading price changes and others following, not only in their list prices but in actual transaction prices. More generally with price coordination, one would expect to find close parallels in the movement of pricing across firms. Of course, finding such parallel movements in price is also consistent with competition so finding such a result is necessary but not sufficient to show coordination. In a customer allocation model, one would expect to find little shifting of customers (entirely or shares of customer volume) across suppliers and fairly stable output shares.

Beyond our work, there remains a substantial need for the analysis of coordinated interaction to be advanced so that we can more reliably determine whether a specific merger is likely to create or strengthen coordinated interaction. Useful research will identify key factual issues and empirical analyses that would shed light on this question.

---

<sup>17</sup> See Jonathan B. Baker, "Mavericks, Mergers, and Exclusion: Proving Coordinated Competitive Effects Under the Antitrust Laws," *New York University Law Review*, vol. 77, pp. 135-203, April 2002.

### C. Merger Retrospectives

In the past BE economists have conducted studies of consummated mergers.<sup>18</sup> We are currently engaged in a number of new projects. For example, a BE economist is working with an academic econometrician in conducting a retrospective study of a number of consumer product mergers that were not challenged by either agency. The goal of this study is to assess what happened to prices, output and shares after the merger occurred and whether it appears the merger might have had an anticompetitive outcome. Such analyses will help BE and the Commission better understand whether the techniques it has employed in assessing consumer products mergers have been adequate. As discussed further below, BE is also conducting empirical analyses of some mergers of hospitals. We have learned that a number of health economists are also engaged in research on the effects of hospital mergers. Finally, the FTC is involved in litigation in two matters in which mergers have been consummated and the FTC is suing the parties to “undo” the merger.<sup>19</sup> Merger retrospectives in all industries should be an important area of research, since we can probably learn most about how to improve the economic analysis of mergers from investigating the effects on the relevant markets of merger enforcement decisions by the agencies.

### D. “Natural Experiments”

A “natural experiment” is provided when data and other evidence can be analyzed to shed light on important issues for competitive effects analysis such as whether the reduction in the number of competitors affects price or other competitive parameters or whether there is substantial diversion of sales between some subgroup of products.<sup>20</sup> For example, if the parties to a proposed merger face different competitors in different geographic areas, and/or market structure has changed over time, it may be possible to analyze whether prices vary systematically depending on which competitors a firm faces. Alternatively, the impact of new entry on price can be assessed. The typical form of empirical analysis is some sort of reduced form estimation. We have long found the analysis of natural experiments to be among the most useful analyses in assessing the potential competitive effects of a merger. More work could be done identifying important issues in such reduced form analyses.

---

<sup>18</sup> See, for example, Schumann, Larry, Robert Rogers, and James Reitzes (1992). “Case Studies of the Price Effects of Horizontal Mergers,” Federal Trade Commission, *Bureau of Economics Staff Report*, and Vita, Michael and Seth Sacher (2001) “The Competitive Effects of Not-for-Profit Hospital Mergers: A Case Study,” *Journal of Industrial Economics* (March 2001), 63-84.

<sup>19</sup> See the “MSC Software” matter, <http://www.ftc.gov/os/adjpro/d9299/index.htm>, and the “Chicago Bridge” matter, <http://www.ftc.gov/os/adjpro/d9300/index.htm>. Public versions of economic expert reports will be posted during the trial.

<sup>20</sup> The utility of natural experiments in merger analysis was highlighted by Dennis Carlton at the Empirical Industrial Organization Roundtable.

## E. Price Discrimination and Analysis of Customer Data

Price discrimination issues frequently arise with regard to market definition and competitive effects analysis in merger review. For example, in antitrust law, the presence of “price discrimination” (the law is not always careful in distinguishing price variation from price discrimination) is sometimes taken as *prima facie* evidence of exercised market power, and from that inferences are made about market definition and/or competitive effects.<sup>21</sup> The existence of substantial price variation is ubiquitous. There is a considerable need for more good theoretical and empirical analysis of price variation and price discrimination and their implications for market definition and competitive effects analyses.

For market definition purposes, the *Guidelines* use the hypothetical monopolist test to assess the contours of the relevant market in which to assess the merger.<sup>22</sup> The question posed in the market definition analysis is whether enough customers would switch to other in response to an across the board price increase in the candidate product market to make such an increase unprofitable. There are two elements of this analysis - (1) what fraction of customers are likely to switch, and (2) how many customers could the hypothetical monopolist lose and still have the price increase be profitable (e.g., what is the critical loss, *see* Harris and Simons (1989), Werden (1998), and Langenfeld and Li (2001)). In cases where margins are high and thus the critical loss is relatively low, it may be difficult to sustain a narrow market unless almost all customers are relatively price inelastic. In many industries, there is likely to be a continuum of customer preferences. And in most real world markets, the prices paid by different customers often vary. Thus, if the hypothetical monopolist could price discriminate between “elastic” and “non-elastic” customers, a selected price increase to those “non-elastic” customers, if possible, might be profitable. In the parlance of the Merger Guidelines, the issue here is whether there are “price discrimination [product and/or geographic] markets.”<sup>23</sup>

Thus, identifying whether there are customers who are likely to be more or less price-elastic, what characteristics distinguish those customers, and whether systematic price discrimination already exists may have an important bearing on market definition and the competitive effects analysis. In light of the *Sungard* decision, an even greater stress has been placed on these types of analyses. Empirical analyses must be at the center of addressing these issues. An important initial set of analyses is to gather descriptive statistics about the customer base of the merging parties (and other firms in the

---

<sup>21</sup> An example of this type of logic would go as follows: “There is evidence of price discrimination on left handed widgets, therefore left handed widgets must be a relevant product market and/or a merger of left handed widget producers must be anticompetitive because market power is already being exercised.”

<sup>22</sup> *Horizontal Merger Guidelines*, Section 1.11.

<sup>23</sup> For an important recent case highlighting an alleged price discrimination market and the use of critical loss analyses *see United States v. Sungard Data Sys.*, 172 F.Supp. 2d 172 (D.D.C. 2001) or at <http://www.dcd.uscourts.gov/01-2196a.pdf> . For DOJ filings in this matter, *see* <http://www.usdoj.gov/atr/cases/indx338.htm> .

proposed market), including information on breakdowns by customer size, industry, type of product purchased or other characteristics that might differentiate customers. To the extent detailed transaction level prices at the customer level are available, such data can be analyzed to see if prices appear to vary systematically by any of the customer characteristics outlined above. If prices vary by customer characteristics, this does not necessarily mean that the different groups of customers have different demand elasticities (it may just be that they are purchasing different “products”). Thus, additional analyses need to be conducted to assess if there appear to be differences in the elasticities of demand for the various customer groups. If possible, estimation of demand by customer group could answer this question. However, in most industries, the available data does not permit such analyses. One possible alternative is to look at variation in prices over time for the different customer groups to assess whether there appear to be differences in these patterns that might suggest differing demand elasticities. We continue to work to consider what types of analyses can be used to address these questions and encourage outside researchers to do the same.

In some industries, customer characteristics are not readily identifiable by suppliers. For suppliers to price discriminate, therefore, they must set up a pricing strategy that causes customers with differing valuations for the product to self-select into high and low prices. In such industries, a hypothetical monopolist might try to raise prices to the “inelastic” group of customers by using a pricing strategy that results in such customers self-selecting the higher prices. An analysis of current pricing practices and whether such strategies are likely to work without substantial arbitrage is thus required. For instance, as a general matter in the airline industry, business travelers are generally willing to pay more than leisure travelers and also want more flexibility in their schedules. Airlines thus charge substantially more for last minute tickets or tickets that can be readily changed or cancelled than fares with restrictions. While some business travelers will choose fares with restrictions to get the better rates and risk having to pay for the ticket if the travel is cancelled, many will opt for the full coach fares.

In several cases over the past year, BE economists have conducted detailed analyses of customer data to help explore the market definition, price discrimination, and likely competitive effects in a number of proposed mergers. In a recent non-public investigation, the merging parties appeared to offer very similar services with a very broad geographic scope to a wide range of customer types. Several other competitors existed who offered services targeted to narrower customer groups or geographic areas. An important question when assessing the potential competitive effects of the merger was to consider whether the merging parties actually served similar types of customers and whether the types of customers served by the merging parties differed from those the more narrowly focused competitors. BE economists conducted a detailed analysis of the customer data available from the parties and from other third party sources.

## F. Intellectual Property

The FTC and Department of Justice have held many days of hearings in 2002 on “Competition and Intellectual Property Law and Policy in the Knowledge-Based Economy.”<sup>24</sup> The hearings have included the participation of the Patent and Trademark Office. A number of leading economists, legal scholars, business experts, among others, have testified at these hearings. BE economists were involved in reviewing the relevant literature and in identifying potential hearings participants. In coming month BE economists will be reviewing the hearings to help inform the Commission about law enforcement and policy issues related to intellectual property. The interface between intellectual property and antitrust law and public policy is increasingly important. Researchers should find the hearings to be of substantial interest. The Commission also recently brought action against a company that was alleged to “misuse” a standard setting process and as a result was able to monopolize the standard through patents.<sup>25</sup>

## G. Health Care

Antitrust issues in the health care industry have long been a prominent part of the FTC’s enforcement and research agendas and is a key focus for the current Commission. Health care is a large part of the economy and increases in health care costs are of significant public concern. In addition to playing a substantial role in ongoing investigations in the health care area, BE has been active and will continue to be active in studying the role of competition in health care. For example, the pharmaceutical industry has been the subject of BE studies and working papers.<sup>26</sup> The pharmaceutical industry has also been a focus of FTC antitrust enforcement over the past several years, with the FTC investigating and, in some cases, challenging some types of settlements of patent litigation between major brand pharmaceutical companies and generics, and agreements between generics.<sup>27</sup> These matters have involved BE developing theories and evidence and evaluating the theories and evidence put forward by the expert

---

<sup>24</sup> Details can be found at <http://www.ftc.gov/opp/intellect/index.htm> and <http://www.usdoj.gov/atr/hearing.htm>.

<sup>25</sup> This is the “Rambus” matter. See <http://www.ftc.gov/os/caselist/d9302.htm>.

<sup>26</sup> See, Roy Levy, *The Pharmaceutical Industry: A Discussion of Competitive and Antitrust Issues in an Environment of Change*, FTC Economic Reports (March 1999), (<http://www.ftc.gov/reports/pharmaceutical/drugrep.pdf>) and David Reiffen and Michael J. Ward, “Generic Drug Industry Dynamics,” FTC BE Working Paper 248, February 2002.( <http://www.ftc.gov/be/workpapers/industrydynamicsreiffenwp.pdf> )

<sup>27</sup> See, for example, the Hoechst/Andrx matter, <http://www.ftc.gov/os/caselist/d9293.htm> , and the Schering-Plough/Upsher-Smith Laboratories/American Home Products matter, <http://www.ftc.gov/os/2001/04/scheringpart3cmp.pdf> . In the latter litigated cases public versions of economists offering expert testimony on behalf of the FTC and on behalf of the respondents is posted on the web site.

economists for companies being investigated that bear on the likely competitive effects of certain sorts of patent settlements in the pharmaceutical industry.<sup>28</sup> A key issue in patent settlements that have been investigated up to now is the presence, in some settlements, of so-called “reverse payments,” *i.e.*, the payment by the patent holder/branded pharmaceutical manufacturer, to the alleged infringing generic. The economic (and legal) issue is whether such payments anticompetitively restrict competition, which raises potential issues in both intellectual property and antitrust.

There has been much consolidation in the hospital industry over the past several years. The FTC and DOJ have lost the last several court challenges to hospital mergers, in significant part due to the finding by the court of a broader geographic (or sometimes product) market than alleged by the government. The finding of a larger geographic market was generally based on patient draw data and critical loss analyses. A growing body of empirical evidence, however, exists that suggests that hospital mergers have led to higher prices. This and other factors thus question whether the approach to geographic market definition adopted by the courts is appropriate.

BE economists are conducting empirical studies of consummated hospital mergers to determine whether those transactions resulted in anticompetitive price increases.<sup>29</sup> These studies have two purposes. First, they may help provide the evidentiary basis for challenging an anticompetitive consummated hospital merger. Second, the analysis of actual price effects of consummated mergers is likely to lead to new, more reliable approaches to the delineation of hospital markets.

BE is also looking at other areas of health care such as physician services and group purchasing organizations to better understand how competition works in these areas and under what circumstances certain practices might be likely to have procompetitive versus anticompetitive impact. Among the important issues are what levels of concentration of provider groups may present competitive problems, and how should “efficiencies” of large provider groups be assessed. We encourage I.O. and health economics researchers to consider addressing these issues as well. Finally, research on the relationship between competition and the “quality” of health care services provided is an important research topic and public policy issue.

## **H. Energy**

The petroleum industry has long been a major focus of the FTC. In addition to its enforcement activity, the FTC is working to better understand the dynamics of the petroleum industry, particularly with regard to gasoline pricing. During 2001-2002 the FTC held three days of hearings regarding gasoline pricing in which BE has actively been involved. The focus of the hearings was identification and

---

<sup>28</sup> *See*, for example, expert economist testimony in the Schering Plough matter, <http://www.ftc.gov/os/2001/04/scheringpart3cmp.pdf>.

<sup>29</sup> BE economists have published studies of hospital mergers in the past. *See*, for example, Vita and Sacher (2001), Sacher and Silvia (1998), Pautler and Vita (1994), and Vita and Schumann (1991).

assessment of the factors that have been important in affecting the level and volatility of gasoline prices. A number of energy and industrial organization economists have participated in these hearings.<sup>30</sup> An FTC staff report based on these hearings is anticipated to be released by the end of the year. In addition, BE is working on a report summarizing and assessing merger activity in the oil industry since 1985. This is a major update of a 1982 FTC staff study of oil industry mergers. The new report is also expected to be released by the end of year. Certainly, empirical analyses of the effects of past oil industry consolidations, and of industry practices such as “zone pricing” and “redlining” would be an interested and important areas of research.

BE has also been working on a number of analyses of gasoline pricing. BE economists have acquired data and have developed econometric models to identify on an almost real time basis unusual movements in gasoline prices (particularly, “spikes”). This analysis is being conducted to better understand factors impacting movements in gasoline pricing and as an input into potential investigations.

## **VII. Conclusion**

The FTC is an exciting and interesting place for industrial organization economists. We regularly deal with important and sometimes cutting edge issues. Unfortunately, much of our work is confidential. However, there is great deal of information available on the FTC web site, both from BE itself and the FTC. Besides various BE research, there is often a great deal of material posted on the FTC site in connection with law enforcement efforts, *e.g.*, complaints, consents, and filings in litigation. We regularly employ the work of outside researchers in our efforts and encourage scholars to do more research. In this paper, we have tried to identify a number of research areas which are important to our mission.

## **Bibliography**

Baker, Jonathan B. (2002). “Mavericks, Mergers, and Exclusion: Proving Coordinated Competitive Effects Under the Antitrust Laws,” *New York University Law Review*, (April 2002), 77, 135-203.

Fisher, Franklin (1989). “Games Economists Play,” *RAND Journal of Economics* 20, 113-24.

Genesove, David and Wallace P. Mullin (1988). “Testing Static Oligopoly Models: Conduct and Cost in the Sugar Industry, 1890-1914,” *Rand Journal of Economics*, 29 (1998), 355-77

Hausman, Jerry and Gregory Leonard (1997), “Economic Analysis of Differentiated Products Mergers Using Real World Data,” *George Mason Law Review* 5 (1997), 321-43.

---

<sup>30</sup> See <http://www.ftc.gov/bc/gasconf/index.htm> for information about the hearings.

Harris, Barry and Joseph Simons (1989). "Focusing Market Definition: How Much Substitution is Necessary?," *Research in Law and Economics*, Vol. 12, 1989, pp. 207–226.

Hosken, Daniel, Daniel O'Brien, David Scheffman, and Michael Vita, "Demand System Estimation and its Application To Horizontal Merger Analysis," (FTC Bureau of Economics Working Paper #246), April 2002.

Langenfeld, James and Wenqing Li (2001). "Critical Loss Analysis in Evaluating Mergers," *Antitrust Bulletin* 46(4) (Summer 2001): 299-337.

Levy, Roy (1999). *The Pharmaceutical Industry: A Discussion of Competitive and Antitrust Issues in an Environment of Change*, FTC Economic Reports, March 1999.

Nevo, Aviv (2001). "Measuring Market Power in the Ready-to-Eat Cereal Industry," *Econometrica*, 69, 307-342.

Pautler, Paul and Michael Vita (1994). "Hospital Market Structure, Hospital Competition, and Consumer Welfare: What Can the Evidence Tell Us?" *Journal of Contemporary Health Law & Public Policy*, 10, pp. 117-167.

Pinkse, Joris and Slade, Margaret (2001). "Mergers, Brand Competition, and the Price of a Pint," Mimeo, Department of Economics, University of British Columbia.

Sacher, Seth and Louis Silvia (1998). "Antitrust Issues in Defining the Product Market for Hospital Services," *International Journal of the Economics of Business*, 5, pp. 181-202.

Scheffman, David (1993) "Ten Years of Merger Guidelines: A Retrospective, Critique, and Prediction," *Review of Industrial Organization*, Vol. 8, No. 2, 1993, pp. 173-189.

Scheffman, David (1993). "Making Sense of Mergers," *Antitrust Bulletin*, Vol. 38, No. 3, Fall 1993, pp. 715-740.

Scheffman, David (1996). "Antitrust, Economics, and Reality," in *The Economics of the Antitrust Process*, M. Coate and A. Kleit, eds., Kluwer Academic Publishers, 1996, pp. 239-254.

Scheffman, David, Malcolm Coate, and Louis Silvia, (2002). "20 Years of Merger Guidelines Enforcement at the FTC: An Economic Perspective," (FTC Bureau of Economics), June 2002., <http://www.ftc.gov/be/ftc20thanniversarypaper.pdf>.

Schumann, Larry, Robert Rogers, and James Reitzes (1992). "Case Studies of the Price Effects of Horizontal Mergers," Federal Trade Commission, *Bureau of Economics Staff Report*.

Shapiro, Carl (1989). "The Theory of Business Strategy," *RAND Journal of Economics* 20, 125-37.

Stigler, George (1964) "A Theory of Oligopoly," *Journal of Political Economy* 72, 44-61.

Vita, Michael and Lawrence Schumann (1991). "The Competitive Effects of Hospital Mergers: A Closer Look," *Journal of Health Economics*, 10, pp. 359-372.

Vita, Michael and Seth Sacher (2001) "The Competitive Effects of Not-for-Profit Hospital Mergers: A Case Study," *Journal of Industrial Economics* (March 2001), 63-84.

Wolfram, Catherine (1999). "Measuring Duopoly Power in the British Electricity Spot Market," *American Economic Review*, 89, 805-26.

Werden, Gregory (1998). "Demand Elasticities in Antitrust Analysis." *Antitrust Law Journal*, Vol. 66, 1998, pp. 363-414.