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**Working Party No. 3 on Co-operation and Enforcement**

**TECHNIQUES FOR PRESENTING COMPLEX ECONOMIC ANALYSIS TO JUDGES**

**-- United States --**

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## **PRESENTING COMPLEX ECONOMIC ANALYSIS AND EVIDENCE TO JUDGES**

### **1. Introduction**

1. Apart from cartel cases, the application of competition law always involves economic analysis in some form. An important element typically is the delineation of a relevant market, and the ultimate issue is whether the suspect conduct has had, or is likely to have, an anticompetitive effect. Economic analyses of various sorts are required for sensible and persuasive market delineation or competitive effects assessment. Economic analysis provides not only specific tools useful in informing the analysis of particular issues, but also the essential logic that brings order to the chaos of real world factual settings.

2. Successfully presenting a (non-cartel) competition case to a judge, therefore, requires effectively communicating economic analysis in a manner understandable to someone who has not necessarily had special training in economics, and who may have no prior experience with competition law. This is often a difficult task. Although the best practices in any particular case will depend on the particularities of the case and applicable procedural rules, the experience of the U.S. enforcement agencies suggests three general principles for efficiently and effectively presenting complex economic analysis to judges.

3. First, economic analysis should be fully integrated into the presentation of the case. It generally is counterproductive to treat economic analysis as a separate and discrete element of proof. Second, economic analysis should be fully and carefully explained in terms that are understandable, or a judge is not likely to rely on it. Third, the opinions of economists should be firmly grounded in the models and methods of economics and, when appropriate, be empirically validated. Economists are most persuasive when they do not stray outside their areas of expertise and do not adopt an advocacy posture in particular litigation.

### **2. Economic Analysis Should Be Fully Integrated Into the Presentation of the Case**

4. The core issue in a competition case commonly is the actual or likely impact of particular conduct on the competitive process and its resulting implications for consumer welfare. Proper adjudication of such a case demands that a judge thoroughly understand how the competitive process operates, what role in the process is played by the competitors whose conduct is at issue, exactly how the conduct at issue affects the process, and what implications for consumer welfare that effect is apt to have. Effectively presenting such a case, therefore, requires weaving the factual threads into a tapestry realistically depicting the competitive process and illustrating the impact of the conduct at issue. Properly applied, economic analysis can turn jumbled facts into a coherent pattern.

5. For economic analysis to perform this function, it is vitally important that the relevant analysis be communicated to a judge clearly and in a timely manner, and every opportunity should be taken to communicate the relevant economic analysis. What opportunities exist depends on particular legal institutions, but a judge is likely to have latitude with respect to procedures, and a competition agency should make constructive suggestions as to what may work best for the judge.

6. When possible, a judge should be provided with a written statement setting out the legal theory of the case and the associated economic analysis, and this statement should be provided as early in the proceedings as possible.<sup>1</sup> Such a statement should be the product of robust collaboration between economists and lawyers, it should fully integrate the law and economics in the case, and it should commit the agency to a particular legal theory and economic analysis that is maintained throughout the case. A written statement is likely to be far more accurate, clear, complete, and concise than any oral presentation could be. Providing the statement in advance allows a judge enter the courtroom with a reasonably clear picture of the case already in mind. In no event should the jumble of facts be laid before a judge before a framework for their analysis has been established.

7. Although extremely useful, a written statement is unlikely to be entirely adequate. A judge almost certainly will have questions about the relevant economics and how it applies to the case. It is highly desirable to use a procedure through which the judge has an early opportunity to ask questions raised by the written statements of the opposing parties. Clearing up points troubling the judge may enable the judge to focus better on the evidence to be presented and to view it in the proper light. Many questions are best addressed by an economist. The depth of understanding that comes from advanced technical training and experience in the practice of economics can be critical in providing clear, and above all, accurate, answers to a judge's questions.

8. An interesting approach used by a judge in a case brought by one of the U.S. enforcement agencies was to preview the testimony of all of the economic experts prior to the trial. Each of the experts was given an opportunity to provide an overview of the case in narrative form, and the judge asked questions.<sup>2</sup> A competition agency should not hesitate to propose novel procedures that could provide a judge with a better understanding of, or an earlier exposure to, the economic analysis in a case.

### 3. Economic Analysis Should Be Fully and Carefully Explained

9. A judge is not likely to be persuaded by mere assertion. Economic analysis can be expected to play a prominent role in a competition case only if it is fully and carefully explained. The explanation should indicate what models or methods of economics have been employed and basically how they work, why those models or methods are suited to the specific task of understanding the actual or likely competitive effect of the particular conduct at issue, and how those models or methods support particular conclusions on the basis of the facts of the case.<sup>3</sup> Almost as important as explaining why an agency's economic analysis is appropriate is explaining why its analysis is more appropriate than the competing

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<sup>1</sup> Two U.S. trial judges indicated when interviewed that "they would be receptive to counsel's request for an early opportunity to brief the key economic issues in the case." Lisa A. Wood, *Trying Antitrust Cases Before Generalist Judges*, ANTITRUST, Fall 2006, at 85, 86. Another wrote that judges "frequently need to understand the technical material long before the case gets to trial." Lewis A. Kaplan, *Experts in the Courthouse: Problems and Opportunities*, 2006 COLUMBIA BUSINESS LAW REVIEW 247, 254.

<sup>2</sup> The case was *United States v. First Data Corp. and Concord EFS, Inc.* (D.D.C., filed Oct. 23, 2003), 2004-2 Trade Cas. (CCH) ¶ 74,481 (2004) (final judgment and competitive impact statement). The case was settled between the expert preview and the start of the trial.

<sup>3</sup> Under rules applied in U.S. federal courts, expert testimony, including from economists in competition cases, is admissible only if there is a good "fit" between the testimony and the pertinent inquiry. *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 591 (1993). Courts exclude opinions when there is "too great an analytical gap between the data and the opinion proffered." *General Electric Co. v. Joiner*, 522 U.S. 136, 146 (1997). In one competition case, the appeals court demanded a "thorough analysis of the expert's economic model," holding that it "should not be admitted if it does not apply to the specific facts of the case," and the court excluded the expert's model because it was "not grounded in the economic reality" of the industry. *Concord Boat v. Brunswick Corp.*, 207 F.3d 1039, 1055-56 (8th Cir. 2000).

analysis put forward by the defense. An agency and its economists should explain why their analysis is more consistent with the facts of the case or economic literature, or simply how its logic is more compelling.

10. The vast majority of economic concepts applicable in competition cases can be clearly and succinctly explained. Economic theory and econometrics can be presented to judges in a non-technical manner that omits most details, unless specifically queried on them by the judge, but nevertheless avoids statements that are so simplistic that they are highly misleading. It is rarely either necessary or wise to sacrifice substantial accuracy in the pursuit of comprehensibility, and it is most unwise to simplify so much that the essential logic is lost and no economics actually remains.<sup>4</sup>

11. Effectively communicating complex economic analysis demands a great deal of advance preparation. Typically, it is best to begin with an objective description of the factual setting that is detailed, precise, and above all clear. To the extent possible, the description should be presented in the form of tables, graphs, and charts (as well as in narrative form), and it should include the key quantitative details necessary to understand the case. The economic analysis can then begin to explain which are the key facts and how they matter.

12. When a case raises an empirical issue, such as the elasticity of demand, the economic analysis should explain why it is a key issue and how data and inference inform the issue. When a case raises a theoretical issue, such as how a merger alters unilateral pricing incentives, the economic analysis should articulate a relevant model of competitive interaction and explain what assumptions drive the model and why they are reasonable in the context of the case. The presentation of economic theory should be made as concrete as possible and should be made quantitatively whenever that is feasible.

#### **4. The Opinions of Economists Should Be Firmly Grounded in Economics**

13. The U.S. enforcement agencies believe that an economist is unable to educate or persuade a judge if the judge perceives that the economist is acting merely as an advocate for a litigating position.<sup>5</sup> This perception is best avoided by making sure that an economist offers sound economics, and does nothing else, when appearing in court. In preparing for court, competition agencies should carefully consider both the conclusions and methodologies of their economists. Agencies should strongly discourage their economists from offering opinions for which they are unable to articulate a clear basis that is firmly grounded in the models and methods of economics and also the facts of the case.

14. Although economic experts should not act as advocates for a litigating position, they should act as advocates for their own economic analysis. In coming to any useful view in a competition case, an economist makes many choices. For example, an economist in a merger case may choose some particular basis for assigning market shares (e.g., sales or capacity) or rely on some particular theoretical model of competitive interaction for predicting the price effects of a proposed merger. If these choices appear to

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<sup>4</sup> At the Fordham conference on International Antitrust Law & Policy, a judge of the Court of First Instance commented: "I don't think it is a good idea that we be provided with an economic message which is 'economics for beginners' really. We would like to have the full demonstration in economic terms. . . . If you want to raise the importance of economics in courts, give us the real thing." *Economic Experts before Authorities and Courts Roundtable*, in 2005 FORDHAM CORPORATE LAW INSTITUTE 615, 642 (Barry E. Hawk ed., 2006).

<sup>5</sup> In the United States, where expert witnesses are used extensively in jury trials, a common critique is that they often act not as experts at all, but rather as advocates for the position taken by the litigant that engaged them. See, e.g., Lewis A. Kaplan, *Experts in the Courthouse: Problems and Opportunities*, 2006 COLUMBIA BUSINESS LAW REVIEW 247, 251–53.

matter and yet seem arbitrary, a judge is unlikely give much weight to the economist's conclusions. Thus, an economist should always explain the logic underlying these choices based on knowledge, experience, and especially the evidence in the case.

## **5. The Use of Complex Economic Analysis in Appellate Courts**

15. In the United States, appeals in competition cases generally do not reconsider the factual findings made by the trial court;<sup>6</sup> rather, they address points of law. The logic of competition law is thoroughly infused with economics, so rules of competition law generally have rationales based on economic analysis, and many rules of competition law themselves invoke economic analysis. Thus, economic analysis can play a central role in an argument for the adoption of a particular rule of law or in an argument for a particular interpretation of an existing rule.

16. In the United States, appellate arguments are almost entirely written in briefs with strict word limits. Consequently, economic analysis must be presented concisely and selectively. An appellate brief in a competition case should identify the key strains of economic analysis bearing on the legal questions posed by the case, concisely relate the basic logic of and insights from the economic analysis, and refer the court to significant contributions in the economic literature. Painstaking drafting may be required to convey the essential logic of the economic analysis in a manner comprehensible by a generalist judge and to strike the right balance between simplicity and accuracy. Economic jargon generally should be avoided and any essential terminology should be clearly defined. Perhaps most important, an appellate brief in a competition case should clearly explain why the economic analysis presented should be given significant weight in deciding the questions of law that have been posed.

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<sup>6</sup> Findings of fact are set aside on appeal only if found to be "clearly erroneous." Consequently, factual findings normally are not challenged.

## CASE ANNEX

### 1. United States v. Visa U.S.A.

17. The effective presentation of complex economic analysis was central to the Department of Justice's successful lawsuit against the Visa and MasterCard credit card networks. In this civil non-merger case, the government alleged that the defendants violated Section 1 of the Sherman Act through certain governance arrangements and through the adoption of exclusionary rules that kept member banks from issuing cards on other networks (such as American Express and Discover). The case was presented to a federal judge (without a jury) in a trial that lasted 34 days with thousands of pages of trial testimony and close to six thousand admitted exhibits.

18. To prove its case, the government put forth economic analysis with respect to the essential elements of the case—market definition, market power, and competitive effects—from its expert, Dr. Michael Katz, Professor of Economics and Business Administration at the University of California at Berkeley. Utilizing sound and accepted methodologies, Professor Katz provided his expert opinion to the court that the defendants had market power in the properly defined relevant markets and that the challenged conduct was anticompetitive. In the end, the district court agreed with the government's and Professor Katz's core contentions, finding that the exclusionary rules violated the antitrust laws, and the Court of Appeals affirmed that finding.<sup>7</sup>

19. The process of presenting coherent and persuasive expert testimony began long before trial. Recognizing the importance of economics to the ultimate outcome of the case, the government retained Professor Katz at the early stages of the matter, making sure that he was involved with the development of the case throughout the discovery and pre-trial periods. For example, Professor Katz attended important depositions, reviewed documentary material, and considered the defendants' arguments as the case developed; in this and other ways, he became well-versed in the myriad details of the important issues well before trial began.

20. As the case progressed from discovery toward trial, the government took advantage of opportunities to present to the Court the relevant economic issues and frame our view as to the appropriate analysis. While there was no formal pre-trial hearing on economic issues, the government set forth the general economic concepts in various legal briefs, and, in the pre-trial brief, provided a detailed explanation of the disputed economic issues.

21. At trial, the government called Professor Katz as its final witness, after the numerous fact witnesses had been heard and documentary evidence submitted. In his direct testimony, Professor Katz fully and carefully worked through the numerous issues, explaining his methodology, highlighting key evidence, and making extensive use of charts, graphs, and other visuals.

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<sup>7</sup> *United States v. Visa U.S.A. Inc.*, 163 F. Supp. 2d 322 (S.D.N.Y. 2001), *aff'd*, 344 F.3d 229 (2d Cir. 2003), *cert. denied*, 543 U.S. 811 (2004). The district court ruled in the defendants' favor on the allegations concerning governance practices, and the United States did not appeal that finding.

22. His testimony on market definition provides an example of the importance of using economic analysis to provide a framework for analyzing the evidence. The government had to prove that credit card network services constituted a relevant market, and that, from a consumer perspective, credit cards were a market distinct from other forms of payment. To support its market definition, the government presented extensive testimony and documentary evidence demonstrating consumer preferences, merchant and bank requirements (merchants and banks are the “customers” of credit card network services), and admissions by the defendants. In his testimony, Professor Katz was able to synthesize this extensive evidence and, applying the appropriate economic tests and performing empirical analyses, opine that the evidence amply supported the government’s proffered relevant market. The Court agreed, assessing the evidence in the framework of Professor Katz’s opinion.<sup>8</sup>

23. As stated above, economic analysis used in litigation should be carefully explained to the court and be firmly grounded in economics. The debate at trial surrounding a survey proffered by MasterCard’s expert demonstrates the types of disputes between opposing economic experts that courts must resolve. MasterCard’s expert claimed that a survey of consumer preferences demonstrated that, in the face of a price increase, consumers would readily switch from credit cards to other forms of payment. Professor Katz disputed this finding, testifying that the study contained a fundamental and crucial error, *i.e.*, it based the price increase on the price of the product being purchased rather than the cost of the use of the credit card. The defendant Visa’s expert was forced to concede the importance of MasterCard’s expert’s error. In the end, the Court found that given the facts of the credit card industry and the issues raised by Professor Katz, “it is essentially impossible to make a definitive calculation of consumer price sensitivity or elasticity of demand via survey”—a finding that served to refute the MasterCard survey.<sup>9</sup>

24. In retrospect, one aspect of the expert presentation was not particularly effective. The parties had agreed to provide the direct testimony of the experts through written statements. There was no live direct examination of the economic experts, meaning that Professor Katz (and the defendants’ experts), upon taking the stand, immediately were subject to cross-examination by counsel for the opposing party. Although the judge had previously been provided the experts’ written direct testimony, this procedure made for a somewhat confusing courtroom presentation of the important economic issues. While it may be impractical (indeed, tedious) to present an expert’s entire direct testimony through live questions and answers, it would be worthwhile to petition the court for an abbreviated live direct examination where the expert could provide the court an overview of his or her written statement prior to hostile cross-examination.

25. In conclusion, the Department’s experience in the *Visa* case shows the importance of presenting sound and persuasive economic analysis to the court. A credible expert can provide invaluable assistance to assist the court in putting voluminous evidence in context, providing a framework for addressing the ultimate legal questions, and, ultimately, reaching the correct decision.

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<sup>8</sup> See *Visa*, 163 F. Supp. 2d at 335-40. The structure of the Court’s opinion itself shows the importance of using economic testimony to provide a framework for the relevant analysis. In its discussion of market definition, the Court initially sets forth Professor Katz’s opinion and methodology and then discusses the evidence that supports his conclusions. The Court of Appeals echoed this analytical structure when it, citing the explanation of “the government’s expert witness,” found no reason to doubt the District Court’s market definition finding. 344 F.3d at 239.

<sup>9</sup> *Visa*, 163 F. Supp. 2d at 336. For a more in-depth discussion of the issues surrounding the survey, see pp. 40-41 of the United States’ appellate brief. Brief for the United States, *United States v. Visa U.S.A.*, available at <http://www.usdoj.gov/atr/cases/fl11700/11793.pdf>.

**2. In the Matter of Evanston Northwest Healthcare Corp., Docket No. 9315 (Federal Trade Commission Decision 2007)**

26. This case was a challenge to a consummated merger of two Chicago-area hospitals. Evanston Northwest Healthcare Corporation (ENH) acquired Highland Park in January 2000. The acquisition combined ENH's Evanston and Glenbrook Hospitals—located in Cook County, Illinois—with Highland Park, the nearest hospital to the north.

27. Under its statutory authority, the Federal Trade Commission (Commission) filed an administrative complaint in February 2004, alleging that following the acquisition, ENH was able, as a result of the transaction, to raise its prices charged to health insurers far above price increases of other comparable hospitals. The matter was tried before an Administrative Law Judge (ALJ) of the Commission.

28. According to the Commission's complaint, the price increase resulted in higher costs to insurance purchasers and hospital services consumers. The complaint alleged that the merger violated Section 7 of the Clayton Act. Economic analysis provided the basis for much of the evidence that the merger was anticompetitive.

29. Prior to this action, combined, the Commission, the Department of Justice, and the California Attorney General's Office lost their last six hospital merger challenges. In most of these cases, the courts reasoned that it was unlikely that the merging parties would increase prices anticompetitively because patients and their health insurers would continue to have many hospital choices. This conclusion was based on findings of relatively large geographic markets for hospital services, which in turn was based on the observation that many patients travel long distances for hospital care.

30. Economic studies, however, suggested that insured patients rarely face a change in their relative out-of-pocket costs when a hospital in their health plan's network increases its price. Moreover, key to hospital prices is the negotiation between the health plan and the hospitals for inclusion in the health plan's network. Hence, patients who see no change in the relative price of hospitals in their network are unlikely to switch hospitals in response to a price increase unless their health plan drops the hospital from its network. Thus, if patients do not switch hospitals, as economic studies indicated, geographic markets are typically smaller than those found by the courts in previous hospital merger challenges. The Commission's challenge to ENH presented an opportunity to change judicial thinking on this issue.

31. In most industries, even those that are very competitive, prices increase over time. A simple observation of a post-merger price increase does not necessarily imply an increase in market power. To test for an increase in market power, one needs to measure the difference between the post-merger price increase and the price increase that would have occurred absent the merger. Because the latter cannot be observed, proxies for this "but-for" price increase are needed. A good proxy for the but-for price increase is the contemporaneous price increase that occurred at non-merging hospitals that are similar to the merging hospitals in most other respects. Despite the differentiation of hospitals that makes the selection of a control group difficult, the "difference in differences" method of isolating the price effect of the merger has the inherent advantage of "differencing out" any unexplained, but hospital-specific variation in prices.

32. The trial was held before an Administrative Law Judge in late 2004 and early 2005. Each side sponsored expert economic testimony, which informed the trier of fact of the respective sides' economic analysis and conclusions. Both ENH and the Commission litigation teams found that the post-merger price increase was larger than the price increases at control hospitals, although ENH's economic expert's estimate of this difference was slightly smaller than the estimate of the FTC staff's economic expert. In



briefing and in testimony during the trial, FTC staff argued successfully to the trier of fact that this relative price increase was evidence that ENH had gained market power through the merger and that, therefore, the merger was illegal.

33. The Commission's expert economist at trial was an outside academic economist. She was assisted in her research by the Commission's internal economics staff, who worked closely with staff attorneys. At trial, she testified first about the nominal post-merger price increases that had taken place. Then, she explained how her analysis of the merged hospitals in comparison with the control group of hospitals sought to separate benign causes of the post-merger price increases from any portion due to the anticompetitive effects of the merger. Finally, the witness described and displayed her econometric estimates using several demonstrative slides to help the ALJ grasp the analysis.

34. In a decision released in October 2005, the ALJ ordered the divestiture of Highland Park Hospital by ENH. In August 2007, the full Commission affirmed on liability, but ordered a more limited remedy in the case.

### **3. In the Matter of Chicago Bridge & Iron Company N.V., Chicago Bridge & Iron Company, and Pitt-Des Moines, Inc., Docket No. 9300 (Federal Trade Commission Decision 2005)**

35. In an administrative opinion issued in January 2005, the Federal Trade Commission affirmed an Administrative Law Judge's (ALJ) ruling, issued in June 2003, that Chicago Bridge & Iron Company (CB&I) illegally acquired certain Pitt-Des Moines, Inc. (PDM) assets. CB&I completed the acquisition of PDM assets in February 2001, while the agency was investigating the transaction. The Commission found that the acquisition substantially lessened competition in four relevant product markets in the United States. The Commission therefore held that the acquisition violated Section 7 of the Clayton Act and Section 5 of the FTC Act.

36. At the time of the acquisition, CB&I was one of the world's leading global engineering and construction companies. PDM was a diversified engineering and construction company, and a distributor of a broad range of carbon steel products. Prior to the 2001 transaction, CB&I and PDM competed against each other as the two leading U.S. producers of large, field-erected industrial and water storage tanks and other specialized steel-plate structures.

37. The Commission's complaint alleged, among other things, that the consummated merger significantly reduced competition in four separate markets involving the design and construction of various types of field-erected specialty and industrial storage tanks in the United States: liquefied natural gas storage tanks; liquefied petroleum gas storage tanks; liquid atmospheric gas storage tanks; and thermal vacuum chambers.

38. During the trial, the Commission's legal team offered the expert economic testimony of an economist from the Commission's Bureau of Economics. The expert economist testified that CBI and PDM were by far the two strongest competitors in the U.S. market at the time of the merger and that other firms could not readily replace the competition lost through the merger. To assist the ALJ to contextualize the effects of the merger, the expert explained that economic theory offers various reasons why some firms might have an advantage in selling a product. These include lower costs obtained through learning-by-doing, a reputation for reliability obtained through years of successfully meeting customer expectations, and better access to key assets.

39. With this contextual background, the Commission staff was then able to show that these specific factors made CBI and PDM the two strongest competitors in the markets in question. Using other fact witness testimony, the Commission's legal team offered evidence that buyers viewed CBI and PDM as the

two strongest competitors in the market. Moreover, the companies' own documents showed that the merging firms viewed each other as their strongest competitor in these markets. Evidence on the history of sales in these markets similarly went to show that CBI and PDM were the two strongest competitors. Given these facts, the Commission's expert economist, drawing on economic teachings, was able to offer the opinion that following the acquisition of its strongest competitor, a firm would be expected to increase price up to the point where it began to lose sales to other firms (either fringe competitors or new entrants).

40. During his testimony, the Commission's expert economist made extensive use of demonstrative exhibits, including pie charts showing the percentages of U.S. projects built by the defendants, maps showing where CBI, PDM, and foreign firms had built liquid natural gas tanks throughout the world, and bar charts showing the size of CBI compared to smaller domestic firms. These aids helped to present the ALJ with a more understandable picture of the relevant markets, the competitive presence of the defendants in those markets, and the anticompetitive effects of the merger.

41. Following the trial, the ALJ ruled that the acquisition was anticompetitive. The Commission affirmed and, to restore competition as it existed prior to the merger, ordered CB&I to create two separate, stand-alone divisions capable of competing in the relevant markets, and to divest one of those divisions within six months. In January 2008, a federal appeals court affirmed the Commission's opinion in the case.<sup>10</sup>

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<sup>10</sup> See *Chicago Bridge & Iron Co. v. Federal Trade Commission*, No. 05-60192 (5th Cir. Jan. 25, 2008).